

when ring, to overcome the extra suction placed on the piston rings in automobile engines which operate under low-throttle, high-vacuum conditions.

give you chrome on the top compression ring, too, wherever Ramco Engineering experience calls for it.

St. Louis 8, Mo.

R503R

TECHNOLOGY DEPT.

Chilton's MOTOR AGE

JANUARY 1955



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ent.



2

TOP PERFORMERS

① A FAST SEATING COMPRESSION RING

Combined in the same replacement ring set!

② A SOFT PRESSURE OIL RING

(1) The Hastings torsional is a compression ring that seats *right now*. Its torsional action brings it into a quick seat and perfect wall bearing in any cylinder—tapered, out-of-round or re-bored.

(2) The Hastings Steel-Vent is an oil ring that stops oil-pumping immediately. It's a *soft pressure* ring with the light inner-spring developed by Hastings. It delivers the extra lubrication

that older engines must have—and with complete oil control and economy.

Here are two top *performers* in the same "Motor Engineered" set . . . built by replacement ring specialists.

You don't get come-backs due to cylinder scuffing and slow-seating when you install Hastings Steel-Vent sets. You get positive, quick performance that makes car owners happy.

HASTINGS MANUFACTURING COMPANY, HASTINGS, MICHIGAN • HASTINGS LTD., TORONTO

Piston Rings, Casite, Oil Filters, Spark Plugs

TOUGH BUT OH SO GENTLE



HASTINGS

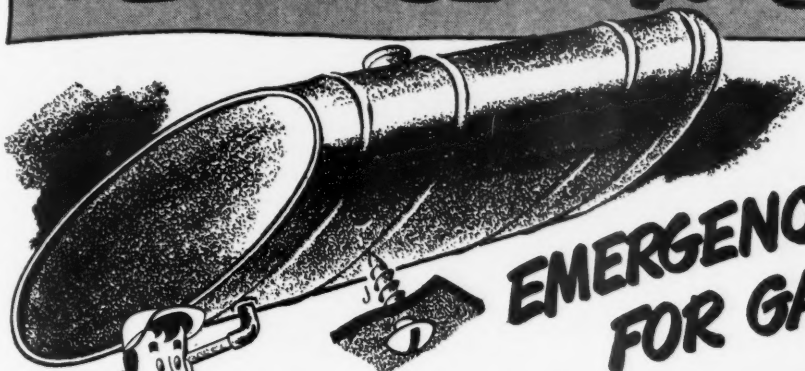
Tough on oil-pumping • Gentle on cylinder walls

STEEL-VENT PISTON RINGS

Regular or Chrome-Faced

SERVICE TIPS

FROM
PERMATEX
NO. 2



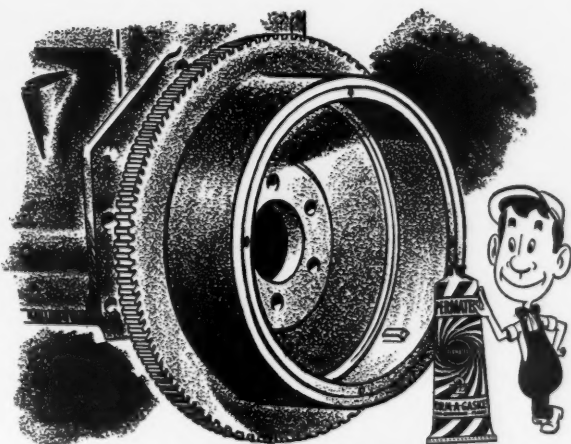
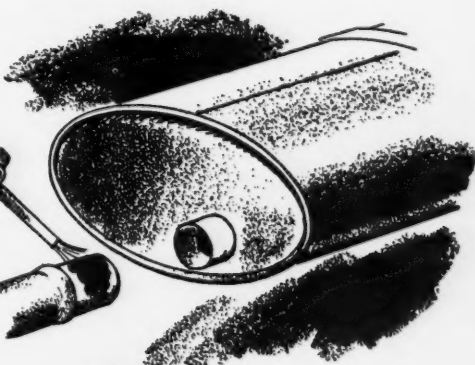
EMERGENCY PLUG FOR GAS TANKS

USE A SHEET METAL SCREW LARGER THAN THE HOLE IN THE GAS TANK. PUSH SCREW THROUGH A PIECE OF GASKET MATERIAL. APPLY **FORM-A-GASKET NO. 1** AND INSERT SCREW TIGHTLY INTO HOLE.



INSTALLING NEW MUFFLER

RUST ON THE END OF THE EXHAUST PIPE AND ON THE TAILPIPE SOMETIMES MAKES IT DIFFICULT TO FIT A NEW MUFFLER. APPLY **AVIATION FORM-A-GASKET NO. 3** TO THE ENDS OF BOTH PIPES AND THE ASSEMBLY WILL BE EASY AND STAY TIGHT.



OIL LEAK INTO CLUTCH HOUSING

SOME CASES OF CLUTCH CHATTER HAVE BEEN CAUSED BY OIL LEAKING INTO THE CLUTCH HOUSING THROUGH THE FLYWHEEL MOUNTING BOLTS. A SMALL AMOUNT OF **FORM-A-GASKET NO. 2** APPLIED TO BOLT OR STUD THREADS WILL STOP THE LEAKAGE.



Form-A-Gasket withstands the enormous pressures of modern high compression engines. It is unaffected by gasoline, hot or cold oil, grease and water, anti-freeze. Always say PERMATEX Form-A-Gasket when you order sealing compound.

EVERY SHOP NEEDS ALL THREE TYPES

No. 1 — Sets quickly. Dries hard.

No. 2 — Sets slowly. Remains pliable.

No. 3 — Brushable. Sets to a paste. Remains tacky.

FORM-A-GASKET®

PERMATEX COMPANY, INC., BROOKLYN 35, N. Y.

MORE THAN 50 CHEMICAL PRODUCTS FOR BETTER
AUTOMOTIVE MAINTENANCE



If your car feels like this...it's time
for **MARFAK** chassis lubrication



That "cushiony" feeling
lasts longer with —

Your fall driving will be "pillow soft" when you get longer lasting *Marfak* lubrication. This great wear fighter clings to chassis points, cushions road shock, *stays* on the job longer. It's specially made to resist jar-out, wash-out, squeeze-out. So you enjoy smoother going for 1,000 miles or more! Drive in for longer lasting *Marfak* lubrication — today! See your Texaco Dealer, the best friend your car has ever had.

THE TEXAS COMPANY
TEXACO DEALERS
in all 48 states

Texaco Products are also distributed in Canada and in Latin America



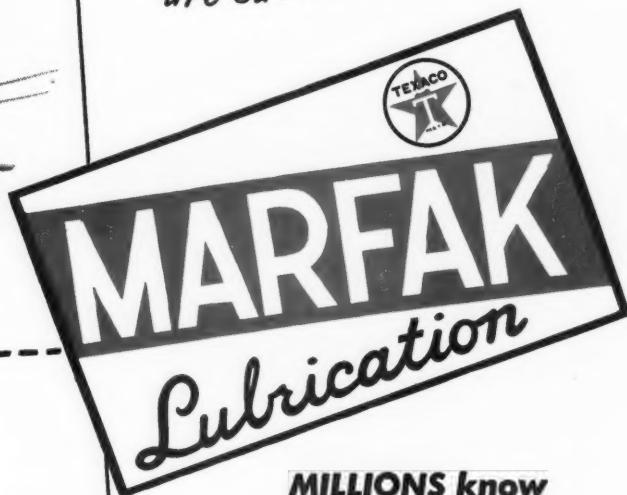
Car owners come back for **MARFAK** chassis lubrication!

Continuous advertising, like this, reaches millions of car owners month after month. So — all over America, motorists try *Marfak* ... like *Marfak* ... keep coming back to Texaco Dealers for more *Marfak* ... It's a terrific customer-builder ... and a powerful sales-builder in other departments and for TBA items.

Here is another example of how we help keep business coming to Texaco Dealers in all 48 states...with outstanding products... and sales-making advertising and promotion.

THE TEXAS COMPANY

*No wonder TEXACO DEALERS
are such busy dealers!*



**MILLIONS know
MARFAK...**

**More than
555 million
pounds of
MARFAK have
been sold!**

Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

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For THE AUTOMOTIVE SERVICE INDUSTRY

LXXIV, No. 2

January, 1955

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LET'S ASK THE WHEEL ALIGNMENT SPECIALIST...

Q: "How do you correct Front-End Sag?"

A: "Gadgets and gimmicks? No! They kill the action of the coil — and are only temporary at best.

"Nothing beats a set of new Moog Coil Springs installed in matched pairs!"

Q: "Why Moog?"

A: "Moog Coil Springs are designed with a *Built-in Overload Factor*. Here's what that means...

"Moog Coil Springs carry the car at the right height... give a smooth, easy ride... and have plenty of lasting power.

"Moog Coils give my customers better performance, under *all* driving conditions. They're designed that way, with *Built-in Overload Factor*."



MOOG INDUSTRIES, INC.
St. Louis 14, Mo.

GHQ for
Coil Springs • Leaf
Springs • Tie Rod Ends
King Bolt Kits • Shackles
Coil Action
Piston Rings





Better farming makes him a better customer for you!

Top farmers produce twice as much per acre, twice as much per man, as average farmers—and *buy* twice as much to *live* twice as well.

Our job is to help *more* farmers become *top* farmers. That makes more top customers for you. For what you sell is needed to achieve *better farming*.

Better farming on more farms—more sales to more prosperous farmers . . . that's what *Better Farming* means!

Now Country Gentleman's name
and aim are the same

A Curtis publication





Here's a money-making tip that builds customer goodwill!

Invest a few minutes in checking ball bearings on every differential, transmission, clutch, wheel, and generator job and you'll get BIG returns through increased service-sales. Just be sure you make replacements with BCA Bearings.

BCA Bearings are engineered for a specific *automotive* need—they protect your customers against the hazards and expense of bearing failure . . . help you build business and customer goodwill.

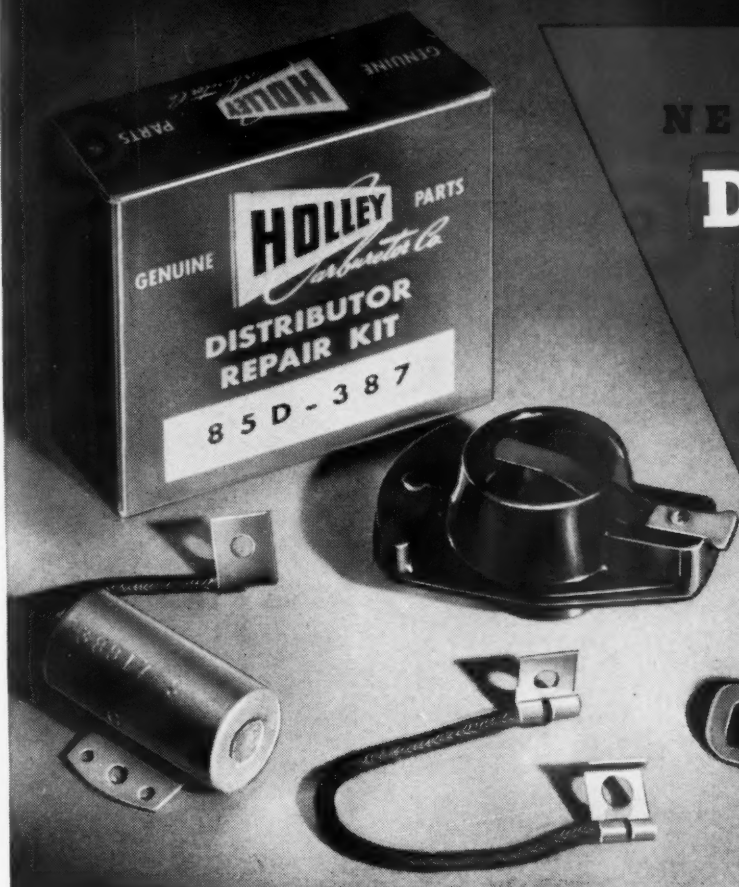
REMEMBER! When you need ball bearings in a hurry, you get fast service when you ask your Federal-Mogul jobber.



Product

Federal-Mogul Service
(Division of Federal-Mogul Corporation)
DETROIT 13, MICHIGAN





NEW HOLLEY

Distributor Repair Kits

provide coverage
thru 1954 models—
Ford, Mercury, Lincoln

STANDARD CONTACT			VENTILATED CONTACT	
PART NO.	85D-385	85D-386	85D-387	85D-388
APPLICATION	<p>Ford— 1948-54 6 cyl. Pass. and Trk. 1949-53 8 cyl. Pass. and Small Trk. 1949-51 F7 and F8 Trk.</p> <p>Lincoln— 1950-51</p> <p>Mercury— 1949-53</p>	<p>Ford— 1954 8 cyl. Pass. and Small Trk.</p> <p>Lincoln— 1952 Passenger</p>	<p>Ford— 1948-54 6 cyl. Pass. and Trk. 1949-53 8 cyl. Pass. and Small Trk. 1949-51 F7 and F8 Trk.</p> <p>Mercury— 1949-53 Passenger</p> <p>Lincoln— 1950-51 Passenger</p>	<p>Ford— 1954 8 cyl. Pass. and Small Trk. 1952-53 F7 and F8 Trk.</p> <p>Lincoln— 1952-54 Passenger</p> <p>Mercury— 1954 Passenger</p>
KIT CONTENTS	<p>1—#76D-38073S Contact Set 1—#86D-38817S Condenser 1—#76D-37910 Rotor 1—#71D-38257 Lead</p>	<p>1—#76D-35-AS Contact Set 1—#86D-50-AS Condenser 1—#76D-37910 Rotor 1—#71D-38257 Lead</p>	<p>1—#76D-71-AS Contact Set 1—#86D-38817S Condenser 1—#76D-37910 Rotor 1—#71D-38257 Lead</p>	<p>1—#76D-94-AS Contact Set 1—#86D-50-AS Condenser 1—#76D-37910 Rotor 1—#71D-38257 Lead</p>
LIST PRICE	\$2.60	\$2.60	\$3.05	\$3.35

These most-frequently-used Holley distributor replacement parts are now packaged in one easy-to-stock carton. Selected for installation on the vehicles you service most often, each distributor repair kit includes a contact set, condenser, rotor and lead. There are no individual parts to lose or identify.

Two kits are offered that include the famous Holley ventilated contact set. Two kits covering the same application are available with standard contact sets.

See your Holley distributor today. Order your stock of these fast-moving, easy-to-use distributor repair kits.

HOLLEY
Carburetor Co.

11955 E. Nine Mile Road
Van Dyke, Michigan

RT-20

Now! A Coil Built for

NEW DELCO-REMY MODEL 1115400



COPYRIGHT 1955—DELCO-REMY DIVISION, GENERAL MOTORS CORP.

A GENERAL MOTORS PRODUCT  UNITED SERVICE MOTORS A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

WHEREVER WHEELS TURN OR PROPELLERS SPIN

Sub-Zero Weather

IGNITION COIL ANSWERS "BLUED POINT"

PROBLEM AT LOW TEMPERATURES

Here's the *engineered* answer to winter starting troubles resulting from burned distributor contact points in 6-volt systems—the new Delco-Remy Model 1115400 ignition coil. This special-duty unit solves the problem *at the source* by protecting the contact points from excessive primary currents which cause destructive oxidation. With a Model 1115400 coil on the job, contact points continue to operate at summertime efficiency even in sub-zero weather, thus assuring easier starting, better ignition, longer point life.

Here's more good news! A Model 1115400 ignition coil will also keep contact points working more efficiently at *all* temperatures in "problem" installations such as taxicabs, door-to-door delivery trucks, and other vehicles customarily operated at low speeds and subject to excessive engine idling. The reason is the same—prevention of excessive primary current means less point deterioration.

The new Model 1115400 is the latest addition to the famous Delco-Remy line of oil-filled service coils—has all of the "eight ways better" features, too! The complete line is available everywhere through United Motors distributors.



Delco-Remy
ThunderVolt
ELECTRICAL SYSTEMS

DELCO-REMY • DIVISION OF GENERAL MOTORS • ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN

To The Nation's Top Dealers:

GREAT MEXICAN ROAD CHAMPIONS MAKE ANY

**Champion-equipped Lincolns, Cadillac,
Dodges and Ferraris Winners in
World's Toughest Spark Plug Test!**

Here's more high-calibre ammunition for every Champion merchandiser!

Your spark plugs again dominated the world-famed Mexican Road Race, giving you another sales advantage your competition simply does not have!

Here's the way the winners roared across the finish line at Juarez after 1908 miles of jungle, mountains and desert, the world's toughest test of spark plug efficiency:

LARGE STOCK CLASS

LINCOLN—first and second

CADILLAC—third

. . . WITH CHAMPIONS!

SMALL STOCK CLASS

DODGE—one, two, three

. . . WITH CHAMPIONS!

UNLIMITED SPORTS CLASS

FERRARI—one, two, three, four

. . . WITH CHAMPIONS!

As one of the nation's best merchandisers, you know how to put proof like this to work for you in selling more Champions. Good luck and a Happy, Prosperous New Year!

Sincerely,



RACE AGAIN PROVES CAR PERFORM BETTER!

1908 MILES OF PROOF...



... that Champions are
STANDARD EQUIPMENT
for
SUPERIOR PERFORMANCE



"THANK GOODNESS I COULD STOP IN TIME!"

Good brakes pay off again! But then they always do; often, they make the difference between life and death! Install genuine Grey-Rock *Balanced Linings*. They'll pay off for you, too—build a reputation for your shop.



You reduce adjustments and comebacks—assure better profit on each job—with Grey-Rock *Balanced Linings*. For with Grey-Rock, balance is not just a matter of high and low friction linings; it is the result of using *many* different linings in combinations properly *engineered* for each make and model. This exclusive Grey-Rock principle provides fast, safe stops and longer, more uniform brake wear.



Distinctive woven and molded linings are combined in Grey-Rock *Balanced Braksets* and *Trucksets* for the specially severe brake requirements of certain makes and models. Where used, woven and molded combinations provide far better brake action than molded linings alone. In other sets, special molded types are used where all-molded combinations give best results. This is a distinctive Grey-Rock feature.

GREY-ROCK FACTORY BONDED SHOE EXCHANGE SERVICE IS THE EASY WAY TO HIGHER RELINE QUALITY, LESS LABOR PER JOB, GREATER PROFITS

Only **Grey-Rock** makes

BALANCED BRAKSET LININGS

GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.

See your Grey-Rock jobber for
FACTORY-BONDED SHOE EXCHANGE

It's the lining that counts

Every piece branded for your protection

Consistently advertised in the

POST and **Better Farming**



RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Clutch Facings • Radiator Hose
Fan Belts • Industrial Rubber, Engineered Plastic, and Sintered Metal Products • Rubber Covered
Equipment • Asbestos Textiles • Packings • Abrasive and Diamond Wheels • Bowling Balls



THE FORWARD LOOK

**A special report to dealers in Plymouth, Dodge,
De Soto, Chrysler and Imperial Cars.**

It's no secret now that Chrysler Corporation is making the strongest bid for new business that any automobile manufacturer has ever made in the history of the industry.

Never before has any automobile manufacturer held advance previews with style authorities, airplane designers, men and women of letters, the arts, finance, the press . . . and many additional discriminating audiences all over the country! Their enthusiastic reception of the styling concepts in our 1955 cars foretold the public acceptance you are now witnessing.

Never before has the motoring public been so aroused and excited by the introduction of a family of new car models . . . under the banner of THE FORWARD LOOK.

But the exciting new styling of THE FORWARD LOOK is not the whole story. Here, too, are new V-8 engines . . . new ride, steering and automatic controls that will make the engineering leadership of Chrysler Corporation more demonstrable than ever before. These fine cars are not only making sales, but are making money for dealers, too. And the sound merchandising policies maintained by Chrysler Corporation in delivering to dealer order make THE FORWARD LOOK more attractive still.

In addition, considerable effort has been expended in rebuilding the Chrysler Corporation Field Force, to provide better service to dealers and closer liaison.

Promotion and merchandising activities have been increased to supplement the greatest advertising campaign in Chrysler Corporation history. Each of the Divisions has undertaken a tremendous selling effort in magazines, newspapers and television. Each supports its own television show of top caliber so that the cars with THE FORWARD LOOK—Plymouth, Dodge, DeSoto, Chrysler and Imperial—are shown and sold to millions of viewers in a combined TV effort unequaled by any other manufacturer! And behind the individual Division effort is a backdrop of Corporation advertising and promotion including the great, new full-hour television shows—"Shower of Stars" and "Climax!"

To any dealer who might ask, "What's in it for me?" . . . the answer is, "Plenty!" The cars are right, the market is conditioned, the promotion is alert and lively. THE FORWARD LOOK is responsible for opening-up a new era of sales and profit opportunities. This is the year people will change to Chrysler Corporation cars because the best engineered cars of all time are today's best looking.

There are good retail opportunities in a limited number of open points in some Divisions. Your confidential inquiry may be addressed to Chrysler Corporation, Box 258, Detroit 31, Michigan.

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**PLYMOUTH • DODGE • DESOTO • CHRYSLER • IMPERIAL
CHRYSLER CORPORATION**

BUILT TO STAND THE GAFF

New Sparton Trojan California Type Truck Mirror



with all these features truckers asked for

GIANT 8" x 18" SIZE. More visibility than ever before offered in a truck mirror.

PROTECTED AGAINST SHOCK. Heavy metal frame and rubber ring protect mirror edges against impact.

RIGID, SHAKEPROOF MOUNTING. Strong, one-piece steel brackets replace conventional "feet."

PROOF AGAINST MOISTURE. Double Strength mirror is especially sealed to resist deterioration by weather.

OTHER HEAVY-DUTY MIRRORS



Sparton makes rectangular mirrors in 4" x 8" and 5" x 9" sizes for hinge or body mounting; also 6" round diminishing mirrors in hinge, body and fender mount styles.

SEE US AT
BOOTH A-154
& A-156

New Sparton Directional Signal Lamps



CLASS A
Meet and Exceed
S.A.E. STANDARDS
STATE APPROVED

**DOUBLE
FACE**

Red or amber lens
or opaque back plate

PROOF AGAINST VIBRATION, SHOCK, WEATHER. Entire lamp housing is die-cast of zinc alloy in just two pieces — can't distort, nothing to come loose — weather tight. Upper half removes for easy bulb replacement.

BULB CAN'T WOBBLE OR FLICKER. Extra heavy socket and retaining spring holds bulb in permanent Photometric adjustment and perfect electrical contact.

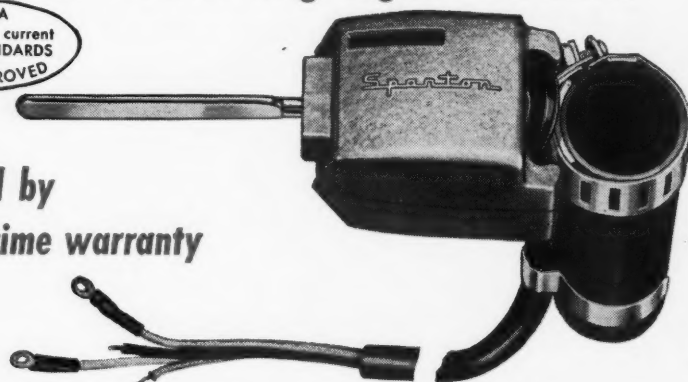
LONG-RANGE VISIBILITY. Optically correct lens and baffle with minimum bulb opening give penetrating light beam and sharp on-off contrast needed to get attention.

INSTALLS QUICKLY, EASILY IN ANY POSITION. Lamp rotates on ball joint and special adjusting washer allows vertical alignment on varying fender and body contours. Only one wire to connect.

New Sparton Roll-O-Turn Self-Cancelling Signal Switches

CLASS A
Comply with current
S.A.E. STANDARDS
STATE APPROVED

backed by
a life-time warranty



SIMPLE, FOOL-PROOF SWITCH MECHANISM. Nothing to go wrong — can't burn out. **TROUBLE-FREE CANCELLING ACTION.** Positive friction drive. Synthetic rubber wheel, in constant rolling contact with steering wheel, wears evenly and never fails to "cancel." **WIRING PERMANENTLY PROTECTED** against abrasion, oil and water by tough vinylite tubing. Internal connections are soldered. **SIMPLIFIED MOUNTING STAYS PUT.** Slotted bracket and perforated mounting strap adjusts perfectly to steering column and wheel. **EASY OPERATING, CHROME-PLATED STEEL LEVER.** Finger-tip actuated. **DURABLE DIE-CAST HOUSING — OVER-SIZE INDICATOR LENS.**

**COMPLETE LAMP-AND-SWITCH SETS
MEET ALL SIGNAL REQUIREMENTS**

With 4-Wire Roll-O-Turn Switch
• All 4 lamps function as
TURN SIGNALS only.

With 7-Wire Roll-O-Turn Switch

- 4 lamps operate as TURN SIGNALS, 2 rear lamps as STOP LIGHTS.
- 4 lamps operate as TURN SIGNALS, 2 rear lamps as STOP LIGHTS or TAIL LIGHTS.

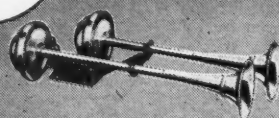
Sparton
FOR SAFETY

Sparton
AUTOMOTIVE

Division of
THE SPARKS-WITHINGTON
COMPANY

JACKSON,
MICHIGAN

SPARTON WARNING SIGNALS



**Tornado All-Electric
Air Horns**



**Red-Cap Dual
Air-Shell Horn**



**3-D Horn — Boosts
warning power 300%**

See it! Compare it!

DISCOVER WHY THOUSANDS ARE CHOOSING

Service Chief



Only Blackhawk
gives you:

Safe, one-hand
release!

No loose
handle!

Tricycle
Positioning

● Here's the jack that's become the fastest selling "one end" bumper lift on the market!

Thousands of service stations and shops already have it in rugged use. Reports from happy users everywhere praise its unmatched speed, portability and safety. They saw, they compared, they bought!

You really can't handle modern cars the *right* way without a "one end" bumper lift—and no other jack does the trick like "Service Chief". It's the fastest, safest jack made for tire changes, wash jobs, wheel rotation, brake service, chain installation, body and fender work and many other service operations.

Make more money on fixed-rate jobs with the speed and efficiency of "Service Chief". Get one—better still, two—from your Blackhawk Jobber today.

**Why it's the RIGHT ANSWER
to "one end" bumper lifting**

NEW!

- **ONE-HAND, SINGLE-MOTION** of aircraft-type control knob releases full-range safety lock and lowers the load.
- **PERMANENTLY ATTACHED HANDLE** is always ready for action—swings out of way when not in use.
- **NEVER OBSTRUCTS TRUNK.**
- **FAST, EASY LOCATING UNDER BUMPER** because of tricycle positioning.
- **BUILT LIKE A LIFT TRUCK!** Rugged! Fully enclosed. High lift exposes full wheel.
- **FITS ALL BUMPERS**—no air hoses—fully hydraulic.

ASK FOR 1½-TON MODEL SJ-25

\$7985

SUGGESTED
DEALER NET

BLACKHAWK

A product of Blackhawk Mfg. Co., Dept. J-615, Milwaukee 46, Wis.

Chilton's MOTOR AGE, JANUARY, 1955



Parts for all hydraulic brakes through your



Safe Brakes Save Lives...You can depend upon WAGNER QUALITY
because Wagner Products are used as original equipment
by manufacturers of cars, buses, trucks, and trailers.

P55-7

Est.
1891

Wagner

*...the best known
name in brake service*

LOCKHEED HYDRAULIC BRAKE PARTS and FLUIDS ... AIR BRAKES ... TACHOGRAPHS ... ELECTRIC MOTORS

are quickly available WAGNER LOCKHEED jobber

FOR EXAMPLE...

to provide the most complete coverage
Wagner and only Wagner actually manufactures

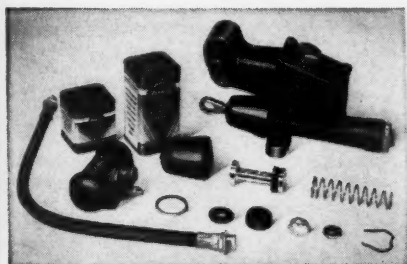
MORE THAN **750** DIFFERENT TYPES AND
SIZES OF MASTER
AND WHEEL CYLINDERS

No other manufacturer offers such complete coverage on hydraulic brake cylinders as Wagner. Line includes master cylinders and wheel cylinders to cover practically every make and model of vehicle.

Wagner Lockheed replacement brake cylinders, cups,

boots, pistons, springs, hose, and washers are manufactured to the same specifications by the same machinery as parts used in complete assemblies for original equipment. This assures perfect fit . . . dependable service . . . quick, easy replacement. See your nearest Wagner jobber or write us.

Save time by getting all your brake service needs at one source...your Wagner jobber.



WAGNER LOCKHEED HYDRAULIC BRAKE PARTS. The most complete line on the market. Includes hard-to-find numbers not easily obtainable elsewhere. Parts are available individually or in factory sealed kits.



WAGNER LOCKHEED BRAKE FLUID. America's No. 1 brand! It surpasses S. A. E. specifications. Chemically balanced formula assures perfect functioning in all seasons and under all driving conditions.



WAGNER CoMaX BRAKE LINING. Unsurpassed for quick, safe, smooth stops. Assures extra long service life with fewer brake adjustments. Available in shoe exchange sets, rolls, blocks, slabs, segments, and sets.

**BOOST PROFITS BY BECOMING A
WAGNER FRANCHISED DEALER**



TRANSFORMERS... INDUSTRIAL BRAKES

Wagner Electric Corporation
6498 Plymouth Ave., St. Louis 14, Mo., U. S. A.
Fill out and mail coupon for full facts on this profitable
program that's sweeping the country. No obligation.

NAME _____

FIRM NAME _____

ADDRESS _____

CITY _____

ZONE _____ STATE _____



First in the Post

Even grown men stared when a "horseless carriage" went by, back in 1900—the year the first automobile advertisement (right) appeared in *The Saturday Evening Post*. Ever since, the Post has been the No. 1 showcase for new and better models. And it has proved its ability to lead prospects to the dealer's showroom. That's why today, as in the past, when it comes to automotive advertising...

The Post is first



This ad appeared in the March 31, 1900, issue of *The Saturday Evening Post*.



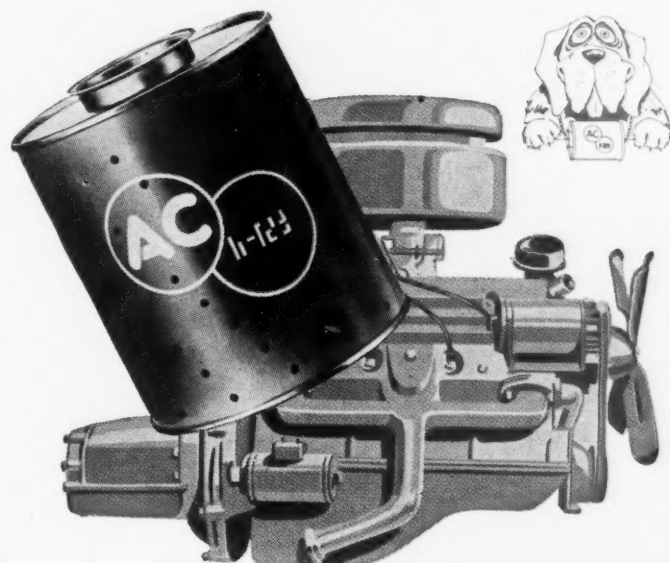
The Saturday Evening
POST

—gets to the heart of America

Another in a series of reports to AC wholesalers and dealers

AC OIL FILTERS

-rescue engines from themselves!



Long ago engineers realized that internal combustion engines produce something besides power. That something is a destructive combination of dust, dirt, grit, metal particles, carbon and acids that are picked up by the lubricating oil and recirculated. Such polluted oil lets an engine destroy itself. Oil is constantly being contaminated, and an oil change alone is not the solution. The oil itself needs constant protection—the kind of protection AC Oil Filters give—filtering out the damaging grit—rescuing engines from themselves!

AC CUSTOM-ENGINEERED OIL FILTERS

Special Material • Special Method • Special Form

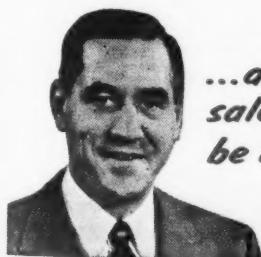


For years AC engineers worked to secure *better* filtering than density-type cotton fibre packing could provide. They found it in *paper!* Not any ordinary paper, but a *special* material fabricated to such exacting porosity standards that it freely passes oil while stopping foreign matter as tiny as 1/100,000th of an inch. Then AC developed a special impregnating resin that can be cured without blocking the pores. The special curing process makes the filtering material impervious to water and crankcase acids. AC accordion-folds this superb filtering material so that it gives ten times the filtering area formerly available.

Atomic Research Techniques Insure AC Maintaining Oil Filter Supremacy!



Radiochemical techniques are being employed today as a part of AC's continuous product-improvement program. Radioisotopes have been called into laboratory use in perfecting the filtering element, and the laboratory work, with customary AC engineering thoroughness, is backed up by proving ground and road test procedures. You can be sure AC Oil Filters will remain at the head of the class.



*...another AC
sales story that can't
be topped!*



AC SPARK PLUG DIVISION OIL FILTERS GENERAL MOTORS CORPORATION
FLINT, MICHIGAN

AC ENGINEERING WITH GM RESOURCES CAN ALWAYS BE LOOKED TO FOR LEADERSHIP



Says Mario De Martino
Serviceman at
Hagin & Koplin, Inc.
Newark, New Jersey

"I've more than doubled my pay since I bought a **CP Air Impact Wrench**"

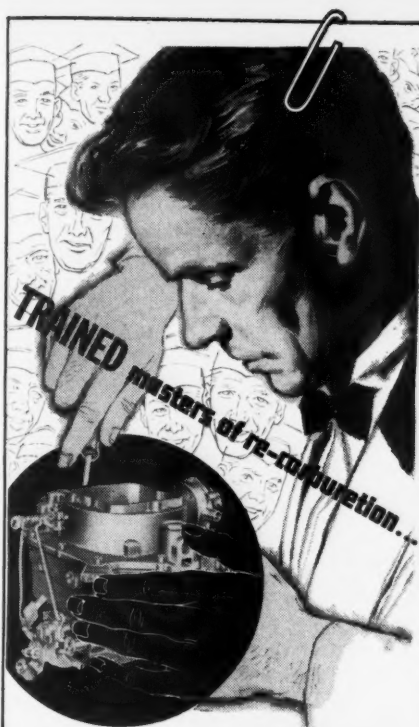
As Mr. De Martino puts it, "A man with a hand wrench spends up to 2 hours removing and replacing the two cylinder heads on a Ford V-8 engine. I can do the whole job in 20 minutes with my CP Air Impact Wrench." Mr. De Martino attributes his increased earnings to his CP wrench which he uses on radiators, clutches, mufflers, cylinder heads, U-bolts and everywhere else.

CP Controllable Power Air Impact Wrenches can be preset to turn nuts and screws to recommended uniform tightness — yet have plenty of extra power to remove even the toughest nuts. Small in size and furnished with attachable angle heads for those ratchet wrench jobs, they're available in 1/2", 3/4" and 1" square drive capacity models. For more details write *Chicago Pneumatic Tool Company, 8 East 44th Street, New York 17, N. Y.*



Chicago Pneumatic

AIR AND ELECTRIC IMPACT WRENCHES • PNEU-DRAULIC TRUCK JACKS AND PUMPS • ZIP-GUNS, FENDER IRONS AND BEAD BREAKERS



CARTER POWER CENTER CARBURETOR SPECIALISTS

..are ready to help your car
deliver top performance!

More than 23,000 men have successfully completed a thorough, rigorous training course in today's modern carburetion and tune-up. Graduates of Carter Factory Service Schools know how to keep your car running smoothly, economically.

The fuel system is the Power Center of your car.
It can make or break automotive performance.



Masters of Re-Carburetion are easily identified by this sign. Also listed under CARBURETOR in your classified directory.

CARTER CARBURETOR CORPORATION
St. Louis 7, Missouri
Division of ACF INDUSTRIES, INCORPORATED

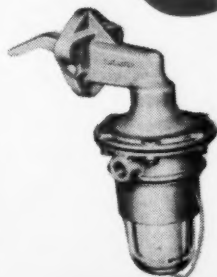
WE TELL YOUR CUSTOMERS ABOUT YOU AND YOUR SKILL

Millions of car owners will read and react to Carter selling messages in their favorite magazines. These powerful advertisements (like the one shown here in reduced form) tell your customers to see the Masters of Re-Carburetion--graduates of Carter Factory Service Schools--for regular fuel system service.

Be the man they look for! Now's the time for you or one of your men to enroll in the Carter Personalized Instruction Course. Conducted by Carter-trained instructors right in your neighborhood. Get all the facts from your nearby Carter distributor or write direct.

It Pays to Stock and Sell the

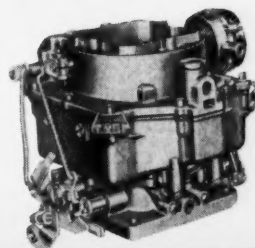
CARTER



CARTER
Fuel Pump
for dependable
fuel supply



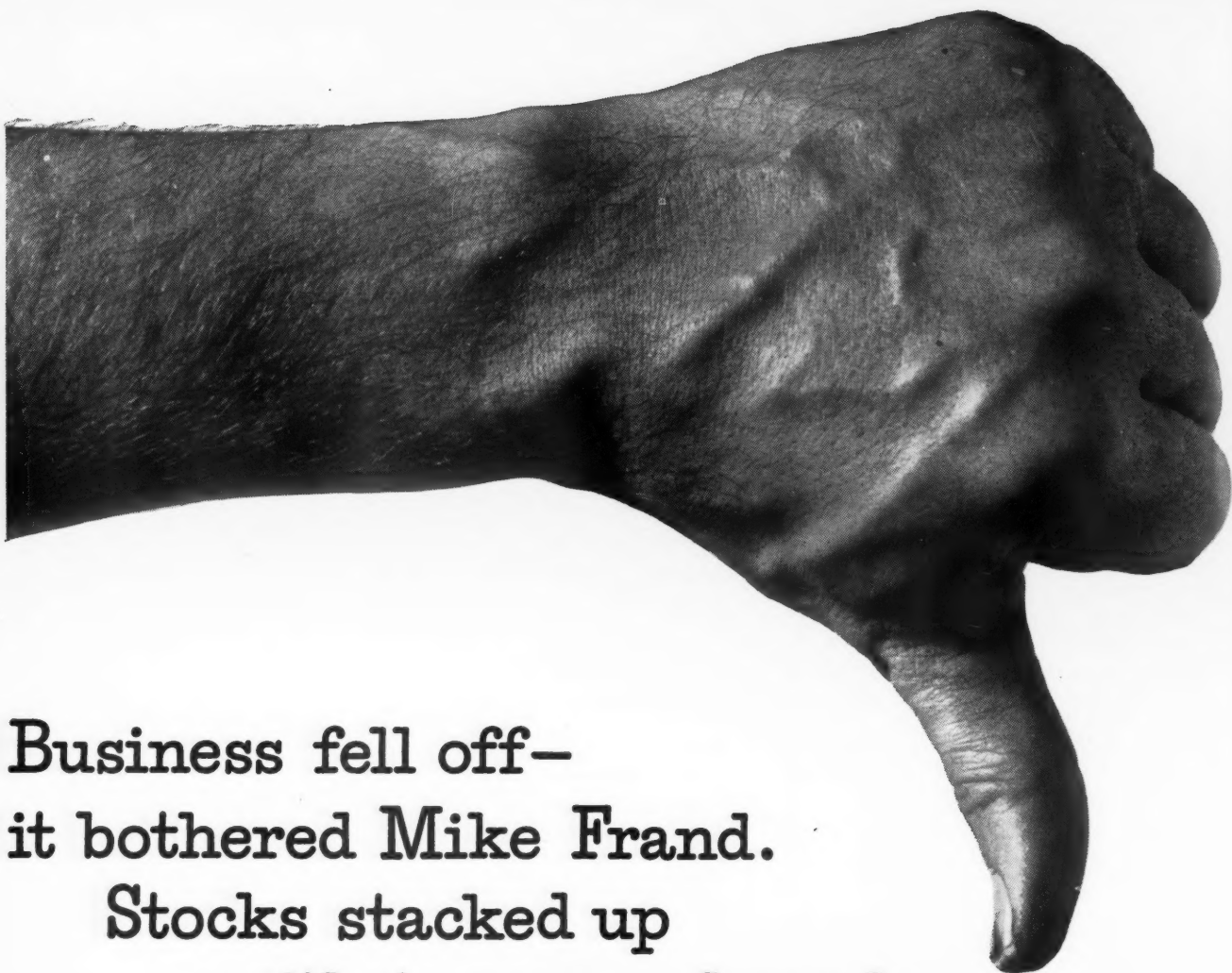
CARTER
Fuel Filter
for clean fuel
supply



CARTER
Carburetor for
sure-feeding power
at all speeds

CARTER CARBURETOR CORPORATION

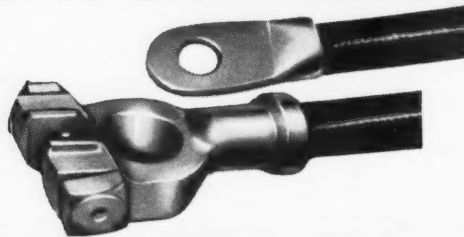
St. Louis 7, Missouri
Division of ACF INDUSTRIES, INCORPORATED



Business fell off—
it bothered Mike Frand.
Stocks stacked up
with too many brands.



Build your
business with
the "BIG 3" in the
cable field!



When it comes to cable replacement, customers want the best—they want long-lasting, high-quality performance. That's why they prefer Packard cable—why repair shops prefer it . . . why more Packard cable is used as original equipment on vehicles than any other cable . . . why jobbers and dealers prefer it. For quick, profitable turnover and customer satisfaction, stock Packard—the preferred cable.

PACKARD BATTERY CABLE—Packard battery cables are used as original equipment on more cars, trucks, buses and tractors than cables of any other make. Packard battery cables are full size, full weight . . . are available with **LEADALLOY** terminals or leaded brass terminals. Both types packaged in individual cartons—both deliver top performance—both have acceptance everywhere.

A GENERAL MOTORS PRODUCT

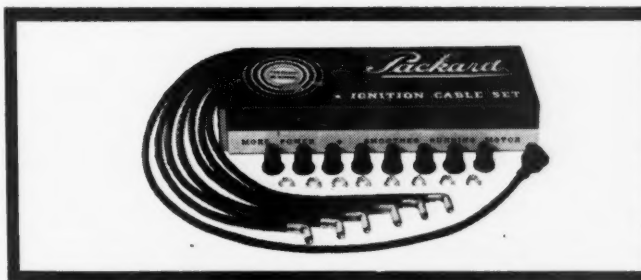


A UNITED MOTORS LINE

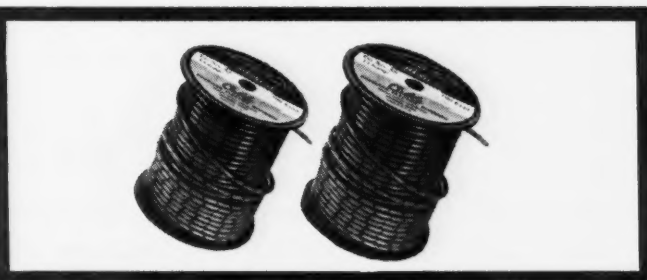
DISTRIBUTED BY WHOLESALERS EVERYWHERE



Now he's selling
as fast as he's able,
Because he is stocking
Packard Cable.



PACKARD IGNITION CABLE—Long considered the standard of the automotive industry. Packard high-tension cable is original equipment on more cars, trucks, buses and tractors than any other cable. Packard **FOUR-FORTY** and Packard **LACKARD** ignition cables are designed to deliver balanced performance in every application. For dependability on the job, choose Packard!



PACKARD LOW-TENSION CABLE—As with Packard's two other products, Packard low-tension cable is used as original equipment on more cars, trucks, buses and tractors than cable of any other make. Packard insulation, by every laboratory test and by the test of long, hard usage in the field, has exceptional resistance to heat, oil, chemicals and abrasion.

Packard
REG. U.S. PAT. OFF.
TRADE MARK

FOREMOST BUILDER OF AUTOMOTIVE WIRING
PACKARD ELECTRIC DIVISION, GENERAL MOTORS, WARREN, OHIO

The dash and design of tomorrow's cars in Yankee's new mirrors

Now, for the first time since the side view mirror was invented, something *different* has been done with its design. The Yankee trademark is your guarantee that the *Pacesetter* and *Comet* are as rich in appearance as they are rugged and durable. These exclusive Yankee designs give you the peak of perfection and style that no other manufacturer can offer. Here are the really new mirrors your customers have long wanted . . . sell them Yankee's **Mirrors of Tomorrow** now.



▲ **The Comet** — Here's a huge, fully-adjustable 4½" head mounted on a sleek, jet-like mirror arm. Mount it right or left, on body or fender — the arm can be adjusted for any mounting position.

◀ **The Pacesetter** — The ultra-modern appearance of the adjustable head suspended within a gleaming chrome ring makes this *Mirror of Tomorrow* a point of pride for every car owner.

Write for catalog, shipping and price information to
YANKEE METAL PRODUCTS CORPORATION
Norwalk, Connecticut



**ARROW
GENERATORS**
More Carefully Made
than the parts they replace



NOW!

**\$7.00
PER WEEK**

(\$28.00 per mo.)

FROM YOUR JOBBER

(Jobbers:
Please see note below)

Eleven Generators . . . every one
Arrow Select Quality . . the finest replacements
you can buy . . . fully guaranteed . . .
cover 95% of all replacement needs.

Here's Arrow's "7-11" deal for you...

- **ELEVEN "SELECT QUALITY" GENERATORS** . . . cover 95% of all replacement sales . . . rebuilt by Arrow . . . guaranteed for a full year.
- **FREE SELLING AIDS** . . . displays, signs, mailing pieces, literature and envelope enclosures . . . and technical helps, too.
- **\$22.50 PREMIUM** . . . Arrow Super-Test Meters for testing Generators, Starters and Regulators on the car included in the \$7.00 per week.
- **SOLID PROFITS** . . . full mark-up and fast turnover . . . profits on the first few sales will pay for the entire purchase.

Only \$6.25 per week . . . the "7-11" deal with eleven Arrow "Standard Quality" Generators . . . and the same Selling Aids, Premium and Solid Profits plus the Arrow one-year guarantee on every Generator.

Ask your favorite Jobber for full details . . . today!
Jobbers: Arrow finances this "7-11" deal for you. Use the coupon at right to learn how.



ARROW ARMATURES CO.

BOSTON 34, MASSACHUSETTS
SPARTANBURG • SOUTH CAROLINA

ARROW ARMATURES COMPANY (Mail Inquiry Dept.)
15 Fordham Rd., Boston 34, Mass.

Yes, I want full information on your "7-11" deal.

NAME.....

COMPANY.....

ADDRESS.....

**ELLIPTICAL, VARIED-LENGTH
RESONANCE CHAMBERS**
assure quieter operation!

MORE WELDS
resist "blowout",
prevent rattles!

**DOUBLE-BARRELED
PROTECTION**—double-
wrapped for longer life.

RUGGED BRIDGE CONSTRUCTION
increases rigidity.

EXTRA PARTITIONS
give greater strength.

BIG TUBES reduce back pressure.



Now...only 2 MoPar mufflers service almost 3,000,000 vehicles!

Part No.	Plymouth	Dodge (6-Cyl.)	De Soto (6-Cyl.)	Chrysler (6-Cyl.)
676 955	1943-48	1939-48	1938-48	1938-48
(Except 7-Pass. Sedan and Limousine)				
1553 740	1949-54	1949-54	1949-54	1949-54
(Except Conv. Coupe on Plymouth; Conv. Coupe, 7-Pass. Sedan, 8-Pass. Sedan, and Limousine on Dodge, De Soto, and Chrysler)				

Fit 90% of all sixes. The models indicated on this application chart represent 3,000,000 vehicles you can service with only 2 MoPar mufflers.



Every fourth car on the road needs a new muffler! That's why an exhaust system check at every opportunity pays off in extra business for you, and extra safety for your customers.

*Build extra profits with MoPar
quality mufflers engineered for
Chrysler Corporation vehicles!*

Yes, you can service 90% of the 6-cylinder Chrysler Corporation vehicles with just two MoPar mufflers. Moreover, because they are *right* for so many vehicles, MoPar mufflers offer you many advantages

...save ordering time...cut installation time...reduce stock investment

And MoPar mufflers mean truly *satisfied customers*—repeat business! They are specially engineered to give more efficient, safer, and longer lasting performance. Stock up on MoPar mufflers—contact your nearby Chrysler Corporation dealer or MoPar parts wholesaler today!

**PARTS DIVISION
CHRYSLER CORPORATION
DETROIT 31, MICHIGAN**

"SO EASY TO SPRAY..."

LION Nōkōrōde

UNDERCAR SEALER AND SILENCER
Saves Me TIME, TROUBLE, MONEY"



Dealers like it... spray men like it!

...because Lion Nōkōrōde is sprayed on thinner (1/16"), dries faster, lasts longer, goes farther... Makes the whole operation from application of pressure to the clean-up job *easier, more economical*. Nōkōrōde is a *concentrated*, Uniform Undercar Sealer and Silencer that assures you of customer satisfaction... and at the same time gives you 50% more undercoating jobs from every drum!



Made from start to finish and guaranteed by Lion Oil Company. For complete details about Nōkōrōde and how you can increase undercoating profits, clip this coupon NOW, and mail to Lion Oil Company, El Dorado, Arkansas.

Made under the process of U. S. Patent No. 2393774

by

LION OIL COMPANY

EL DORADO, ARKANSAS



- Lion Oil Company
- Dept. MA-A
- El Dorado, Arkansas
- Please send me free complete information about
- Lion NOKORODE, the quicker, easier, more
- economical Undercar Sealer and Silencer.
- Name _____
- Street _____
- City _____ State _____

It takes all kinds of customers...



...but they all want the best. And when it's bearings, just tell 'em it's *TIMKEN®*!

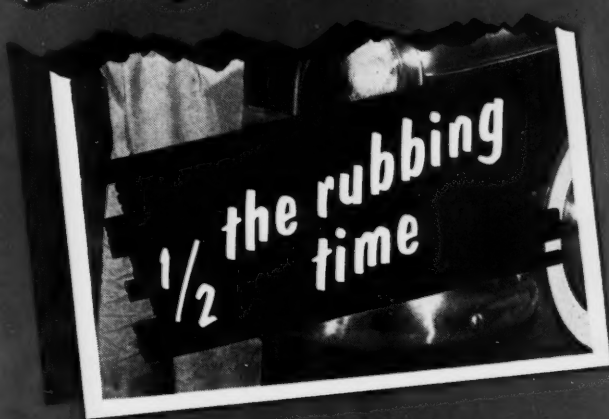
Everybody knows Timken® bearings. When you install a tapered roller bearing, show them you use the best, show them the "Timken" trade-mark. It will help keep them coming back. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN *Tapered* **ROLLER BEARINGS**
TRADE-MARK REG. U. S. PAT. OFF.



NOT JUST A BALL ○ NOT JUST A ROLLER □ THE TIMKEN TAPERED ROLLER □ BEARING TAKES RADIAL ⬆ AND THRUST →⬆ LOADS OR ANY COMBINATION ⬆

Cuts This Time and Labor In Half



NEW TRIPLE "S"

LACQUER THINNER

SAVES TIME: Triple "S" Thinner cuts your color spraying time on overall jobs in half. Lacquer thinned with Triple "S" completely covers in 2 coats.

SAVES LABOR: Using a cold spray application, you get the hot spray effects of a good, full finish with depth and luster. This reduces your actual rub-out time by 50% or more.

SAVES TROUBLE: Acme's Triple "S" Lacquer Thinner gives you better color matches and deeper, more lustrous finishes because it develops the color more completely. Less thinner is used to give color minimum viscosity with maximum solvency. Sand scratches, wetting, and lifting of old coats are greatly reduced or eliminated. Since lacquer reduced with Triple "S" can be applied heavier, there is less spray dust and overspray.

You've watched your costs go up—now watch them go down, with this dollar-saving new Triple "S" lacquer thinner.

CALL YOUR ACME JOBBER

ACME QUALITY PAINTS, INC.

8250 ST. AUBIN

DETROIT, MICHIGAN

ACME
AUTOMOTIVE
FINISHES

The
ACME WAY

Makes
PAINTING PAY

Blue Streak Ignition is better for your business

39000 ignition specialists agree: Blue Streak ignition parts are sturdier; they last thousands more miles than you imagine they should; their performance and long life spurs your customer to tell all his friends, "Great mechanic that Joe". You see, we build your "reputation insurance" into our parts. For a brilliant example, look at the heavy-duty **BLUE STREAK TRIPLE TOP COIL**.

BALANCED WINDING

Primary and secondary windings are precisely balanced for greatest efficiency, easy starting and high speed operation.

SUPERIOR INSULATION

In the critical area near the core where the highest voltage is developed extra layers of top quality insulation paper protect against coil-killing high-tension shorts.

TRIPLE PROTECTION TOP

Unique pagoda design protects against high-tension flashover, entrance of coil-killing moisture and accidental loosening of cable.



**SEE YOUR
BLUE STREAK
JOBBER**

STANDARD MOTOR PRODUCTS, INC. Long Island City 1, N. Y.



For the new High HP cars!

The remarkable multigrade oil that fights preignition—keeps valve lifters quiet and efficient—stretches gas and oil mileage!

to keep that high horsepower high

This year, more than ever, it's vital that the motor oil you put in your customers' cars is specially formulated to meet all the challenges of high-horsepower, high-compression engines.

High HP Purelube, with an exclusive additive combination, keeps horsepower "high" by combating the special problems of this "High Horsepower Age." It fights preignition, reduces knock—cuts gasoline octane require-

ments, keeps valve trains working properly, and provides top all-weather protection.

So give your customers High HP Purelube—the oil that can mean better performance for your cars . . . more good will for you!

Free! Send for free booklet which gives all the details on this great oil.

The Pure Oil Company, Dept. MA-51
35 East Wacker Drive, Chicago 1, Ill.

Please send me without obligation the FREE booklet on new "High HP Purelube."

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____



**Be sure
with Pure**

Sales offices are located in more than 500 cities in Pure's marketing area.

Quick Seating



CHROME TOP RING

Factory-topped to a tight-tight finish for quick seating and fast break-in, with a heavy solid chrome face applied by Sealed Power's exclusive process. Fights heat, friction, abrasion, and corrosion.

CHROME SIDE RAILS

More than double wear life is given to the side rails of the steel oil ring by solid chrome faces, giving top-and-bottom protection to the whole set.

FULL-FLOW SPRING

Every KromeX Ring Set includes the famous MD-50 Steel Oil Ring with the Full-Flow Spring—best for oil control even in badly tapered and out-of-round bores.

FAST BREAK-IN

Millions of road miles of use have proved that Sealed Power KromeX Ring Sets break-in fast, go to work saving oil in an amazingly short time.



an important plus-value in **Sealed Power KromeX** **PISTON RING SETS**

Don't let anybody deceive you about chrome rings. Sealed Power KromeX Ring Sets break in as fast as plain cast iron rings, because of Sealed Power's exclusive factory-lapping process, equal to hundreds of miles of actual wear. This quick-seating means immediate oil control—and amazing oil economy from the start.

And remember—in Sealed Power KromeX Ring Sets, *both* the top compression ring and the side rails of the MD-50 Steel Oil Ring are chrome faced. This gives the long-wearing protection of chrome at the top and bottom of each set, which accordingly increases the life of the rings between.

28 leading engine builders use Sealed Power chrome rings!

Sealed Power Piston Rings

BEST IN NEW CARS!

BEST IN OLD CARS!

SEALED POWER CORPORATION, MUSKOGEE, MICHIGAN

RINGS • PISTONS • PINS • SLEEVES • VALVES • WATER PUMPS

Newscoop

changes at A M C
the future looks good!
personalized station wagon
car production in 1954
Continental distribution
new idea for steering
training center program

The Big Ten of AMC

A NEW, 10 MAN TOP POLICY COMMITTEE has been formed at American Motors Corp. by George Romney, President. The new board, which will meet once a week, will establish the overall policies of the company within the general corporate decisions made by the board of directors.

FORMATION OF THE POLICY COMMITTEE was the first major change at AMC under Romney's command. Another move which followed almost immediately under the new president resulted in the creation of four new marketing divisions.

★ ★ ★

OUTLOOK FOR AUTOMOBILE SALES AND PRODUCTION this year is good. Estimates run from 5.5 to 5.8 million. This presumes no serious difficulties such as a possible long strike over guaranteed annual wage when UAW-CIO five year contracts come up for renewal in June.

Extras! Extras!

ALL AUTOMOTIVE COMPANIES REPORT BIG GAINS in optional equipment sold with new cars last year, expect the trend to continue upward this year. Such items as power equipment and luxury items have gained wide acceptance. Radios, heaters, automatic transmissions, white wall tires and tinted glass are going into more than half of all new cars sold.

★ ★ ★

PONTIAC WILL SOON INTRODUCE a small personalized station wagon similar to the Chevrolet Nomad. It will be built from the same body tooling as the Nomad, but with Pontiac chassis and styling. Apparently it will be an effort to test public reaction toward a small station wagon type vehicle with high performance and individual styling.

It's the Aim that Counts

HEADLAMP AIMING WILL GET A LOT of attention with adoption of the new type sealed beam headlights next year, first as replacements and later as standard equipment on cars. Service shops are being urged to acquire proper equipment and techniques to meet the need for better aiming.

Another Clue Points to L-M Split

LENDING WEIGHT TO RECURRING REPORTS of a possible split of the Lincoln-Mercury Division into two autonomous operations is the announcement that a second advertising agency has been appointed by L-M to handle Lincoln cars.

BOTH LINCOLN AND MERCURY ADVERTISING since 1948 has been handled by Kenyon & Eckhardt, Inc. However, Young & Rubicam, Inc., which was named as the agency for the new Continental Division of Ford Motor Co., will take over Lincoln advertising next July.

★ ★ ★

1954 TURNED OUT TO BE A VERY GOOD AUTOMOBILE YEAR after all. Forecasts a year ago indicated production of 5.2 million cars, but latest official estimate indicates 5.5 million, third highest in history. Trucks did not do so well, but still ran over a million for a total vehicle output last year of more than 6.5 million.

S-P Service Consolidated

THE STUDEBAKER-PACKARD CORPORATION has consolidated the Studebaker and Packard service departments and will set up training centers at 15 locations around the country. Dealer personnel will be trained in service techniques at the 15 installations.

THE FORMER HEAD OF STUDEBAKER SERVICE, Roy B. Bender, will manage the consolidated department. The company also has combined Packard and Studebaker parts and accessories operations under D. S. McNally, who has been head of Packard's parts and accessories operation.

★ ★ ★

FORD'S CONTINENTAL DIVISION HAS NOT YET SETTLED on distribution for new Continental car coming next year. It will, however, be sold through Lincoln-Mercury dealers, but whether all or only a select few will handle it, has not been decided.

Die Valkyrie

SCHEDULED FOR LIMITED PRODUCTION, the first German custom-built American car will be featured in the United States Feb. 20-27 at the annual Universal Travel & Auto Sports Show in Madison Square Garden, New York.

CALLED DIE VALKYRIE, the automobile was constructed in Ravensburg, Germany, by the Herman Spohn Carriage Works. It was designed for the Imprex Co. of Cleveland, which will build it at a price reported to be 50 per cent higher than a deluxe Cadillac.

★ ★ ★

AUTOMOBILES HAVE CONTINUED TO SPARK inventive activity. Of all patents granted last year about 18 per cent were automotive, which is par for the course since about 1899.

MANY PATENTS HAVE BEEN FAR IN ADVANCE of their time. For example, the first patent for an automatic transmission was filed at the turn of the century, but the first practical application was the Hydramatic in the late 1930's.

Even the Steering Wheel May Change

A DETROIT INVENTOR HAS COME UP with an interesting innovation to replace the conventional automobile steering wheel. It consists basically of a horizontal bar which mounts on the steering column in place of the conventional wheel.

THE BAR IS EQUIPPED with two small circular wheels at the ends inside of which are grips that are free to rotate. When the bar is turned, the handles being free to float, remain in the same position relative to the wrist as they are at the horizontal position.

INVENTOR RAY RUSSELL SAYS the big advantage is that the unit does not extend above the dashboard to obstruct vision, and provides more room to slide under the steering unit when it is the normal horizontal position.

★ ★ ★

GENERAL MOTORS IS HALF WAY THROUGH its training center program. In mid-December it opened its fifteenth unit at Charlotte, North Carolina. Balance of the program will be completed by spring, with only two or three units delayed beyond that point.

Washington Wireby Ray M. Stroupe



LOWEST PROFITS SINCE WORLD WAR II were made by new car dealers in the first nine months of 1954. Profits before federal income taxes sank to 1.7 per cent of sales, the National Automobile Dealers Ass'n finds. As a result, about one dealer in five operated in the red for much of the year.

Deaths Down 15% on S-D Day

TRAFFIC MISHAPS TOOK THE LIVES of 51 persons on Safe Driving Day, December 15. Despite this toll, deaths were down by 15 per cent, injuries by 46 per cent, and total accidents by almost 20 per cent when compared with the rate a year earlier. The S-D Day program was well backed by the nation's businessmen.

★ ★ ★

FEDERAL EXCISE TAXES ON AUTOMOTIVE ITEMS are being discussed in detail at the national conference on highway financing this month in Washington. Specialists from business and government are asking whether income from these taxes should be used solely for road building.

Ike at NADA in 1956

ONE YEAR AWAY is the scheduled appearance of President Eisenhower at the 1956 convention of NADA, to take place in Washington. Charles Freed, NADA president, invited the President in a recent personal call at the White House.

Broad Base Less Vulnerable

REVERSAL BY THE DEFENSE DEPT. from the single supplier concept to the broad base idea in allocating defense contracts is a favorable development for smaller automobile companies.

STUDEBAKER-PACKARD AND AMERICAN MOTORS have indicated they will make determined drives for defense work and the new directive should enhance their opportunities.

DEFENSE SECRETARY, CHAS. E. WILSON has favored concentrating defense orders with large single suppliers as the most efficient and economical way of producing needed equipment. That policy had been under fire politically on the basis that single sources are more vulnerable to military attack.

★ ★ ★

NEW CAR DEALERS PUT MORE than \$139 million into home town advertising in the first nine months last year, National Automobile Dealers Ass'n reveals. This means that for each new car sold from Jan. through Sept. the dealer spent about \$36.60 for local ads.

Defense Contracts for Hudson

PLANTS OPERATED UNDER THE HUDSON Special Products Div. of American Motors next year will start work on three new defense contracts the corporation recently received from the government. Nature of the new contracts is classified.

★ ★ ★

THE SENATE SMALL BUSINESS COMMITTEE intends to learn if gasoline price wars are forcing small gas and oil retailers out of business. The committee is gathering facts from major oil companies operating in New Jersey and may later collect information in other states, such as Pennsylvania.

No Evidence in Unfair Price Charge

AUTO PARTS DEALERS charged with unfair pricing in their volume discount sales may get a favorable ruling from the Federal Trade Commission. In each of three cases heard by the FTC, recently, there was no evidence of injury to competing sellers.

★ ★ ★

GOVERNMENT AGENCIES ARE GOING TO HAVE FEWER CARS with fewer rattles. A new plan is aimed at saving \$35 million a year by getting new cars for those driven about 50,000 miles. Another \$5 million a year may be saved by using central motor pools and doing away with some 10,000 cars.

★ ★ ★

STUDEBAKER IS RULED INNOCENT of a charge of unfair labor practice. The charge was brought after the company suspended 19 employees who drove cars made by other firms. Official National Labor Relations Board view is that the men were suspended only because others refused to work with them.

★ ★ ★

CHANGES IN VEHICLE INSPECTION METHODS will reduce maintenance costs by \$6 million a year, the Army says. Former 60-day or 1,000-mile inspections are replaced by 90-day or 2,000-mile checks. Also done away with are semiannual inspections, now seem as unnecessary.

Report to Our Readers



The only thing we have to fear is—work itself!

HARD, brainy, sweatful work is a blessing and many a man has become successful because of it. We offer this as a cautious reminder in these days of optimism, new models, prosperous family incomes and the greatest car and truck population in history.

Work is the application of principles learned in the woodshed, the schoolroom and in the cathedral of common sense.

Work is the sacrifice of your own convenience on behalf of someone else.

Work is merchandising and selling according to the rule book, avoiding the schemes of expediency. Expediency could be our greatest sin; the thief of our profits.

Work is the answer to the question: How do you find business? Work. It means satisfying the public with your product, your service, your reputation and your integrity.

Work is convincing people that when they come to you, they've come to the right place and the right person.

Work begets usefulness. It is know-how in action. It is capital you invest in yourself.

Work, properly directed and taken in sufficient dosages is the best guarantee of profits. It's the backbone of American free enterprise.

Work is the next best thing to prayer and both work well together.

There's plenty to be done

STEP back for a moment and take a look at this land of ours. One hundred and sixty million people, earning over three hundred billion dollars a year; building as many as a million new homes a year; buying upwards of five million new automobiles annually.

About one and a half million couples get married and contribute to our annual birth rate of 3.8 million babies. (Four million in 1954!)

We use forty-two billion gallons of fuel to drive

sixty million vehicles five hundred and fifty billion miles a year.

Our population is steadily increasing and moving out of the cities and into the suburbs where the automobile becomes an even greater necessity than ever before. The super marketing centers provides most of our daily needs.

To work to serve the vast and prosperous American public . . . to earn the rewards of their patronage . . . to sell the goods and services of the automobile merchant . . . to compete with each other and to compete with other wants, needs and dreams of the home owner—is the task ahead.

Is price cutting the answer? Is bootlegging the answer? Are we destined to live on a profitless island in a sea of prosperity? The answer should be NO. But it's going to take a lot of work, sweat and no tears.

Independents organizing

AS we go to press the announcement is at hand of an important meeting taking place in Oklahoma City. The meeting should lead to the formation of a national federation state and local garagemen's associations.

Temporary officers named last summer in Tulsa will conduct the meeting and their goal is the adoption of a constitution and by-laws, the election of permanent officers, the selection of a name, emblem and permanent national headquarters.

We wish the independents of our industry a successful voyage into national organization.

Faithfully yours,

Frank P. Tighe

EDITOR

NewsScene



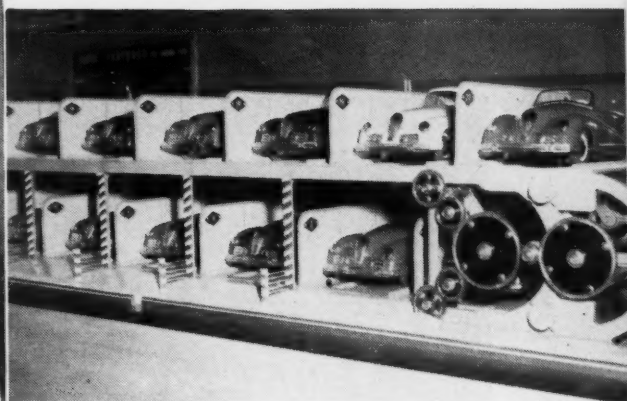
MEET THE KURTIS 500-M SPORTS CAR. The vehicle had its premiere showing to the public recently with special ceremonies in Los Angeles. This new high performance Kurtis drew high praise for its flowing lines and sleek appearance. Miss Betty Lee, a performer at the Moulin Rouge in Hollywood, is helping to introduce the car. ▲

SHE'S GONE BUT THE SHOE'S STILL HERE. The Mother Goose rhyme about the old lady's shoe full of children comes alive in modern times with the work of an enterprising resort manager in the redwood country of California. Slabs of redwood were used to build this quaint abode along the highway. It's a real traffic stopper. ▼





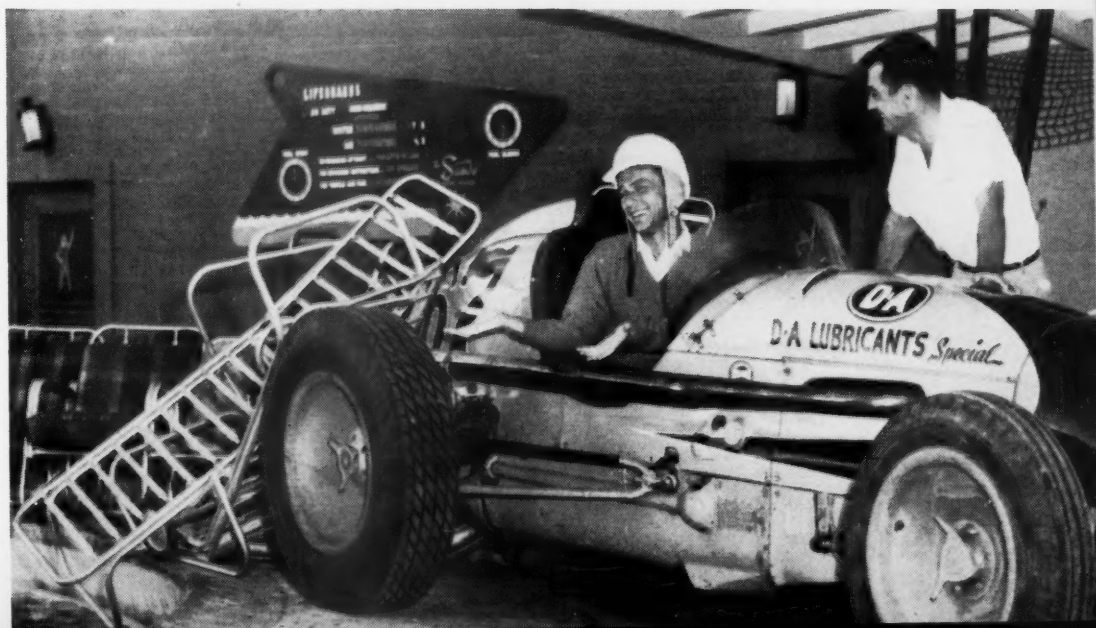
PICK-A-BACK PARKING helps a parking lot in Washington, D. C. double its normally available space. When raised the individually operated platform lifts leave space below for another car. Here, a lot attendant is raising the car in the center for all-day storage. Temporary parkers use the lower level. A model of another mechanical device (above, right) designed to solve parking problems is being shown by an Italian manufacturer. Automobiles are driven onto a mobile platform that moves them escalator-fashion into tiers for compact storage.



MECHANIZED FRAULEINS add a novel touch to operations as they swarm around a customer's car at a gasoline station in Deidesheim, near Kaiserslautern, Germany. Business is booming here since this group of girl attendants were employed and equipped with roller skates to help speed up service.



PHEEW—THAT WAS CLOSE! Thanks to the quick thinking of Leroy Warriner, national AAA midget champion, Frank Sinatra was saved from a dunking and possible serious injury. While posing for publicity shots Sinatra disengaged the racing car's gears and it rolled backwards. Fortunately the race driver managed to grab the hand brake, just in the nick of time.





A. T. Colwell

Where the

A leading figure in the industry makes a

THE automobile industry is entering a prolonged competitive era, in which costs are being carefully scrutinized. The dormant art of selling is replacing the process of order taking. Huge capital outlays for improved equipment and automation are being made, and alert managements are keeping abreast of this trend, which is current in the entire industry.

A recent survey indicates the three leading factors affecting car sales: 1. Appearance—or styling; 2. Economy; 3. Reliability.

Women are consulted 60 per cent of the time regarding new cars. It is a compliment to automobile engineering that reliability and performance are so often taken for granted, because there are no "lemons" on the market today—many buyers never bother to look under the hood.

Present engines have been developed, tooled and put into production at heavy expense. There will be improvements and modifications, but the present new engines are likely to be in production for several years. During this time, research and development departments are investigating several other engine designs, including the gas turbine. The gas turbine is likely to be the eventual power plant, for concentrated development will greatly improve fuel consumption, reliability, and over-all efficiency.

Fiber glass is being used for bodies of sports cars, the reason being that with limited production, under 15,000, this type of body is

Automotive Industry *Is Going*

few observations on the present and future of the fast-moving automotive business

cheaper because of the cost of steel body dies. In quantity production fiber glass cannot compete with steel at the present time, where production is large enough to amortize die costs.

The small European type car has not been popular in America because of the used car market. Good used transportation has been available at reasonable prices, but the parking problem in cities could influence a trend to small cars.

Replacement parts sales should increase appreciably in the near future. Cars produced in the past four to five years should soon be needing replacement parts. The cycle for repair is longer than formerly, because cars are better made, fuels and lubricants improved, and the public learned much during the war about car conservation. In addition, many families own two cars, which decreases the yearly mileage per car. The replacement market should soon be healthy again.

Automobile manufacturers have always shown an inclination to make more of their parts when they are convinced that large cost reductions can be made. The parts specialist has held busi-

ness over the years by concentrating on the design and manufacture of his exclusive part, and car makers have recognized this fact. The parts maker has specialized equipment and expert personnel who are more capable of handling problems because they work with many companies and have wider experience in their particular field.

When the car maker is in trouble he nearly always calls in a specialist in that field to help solve the problem.

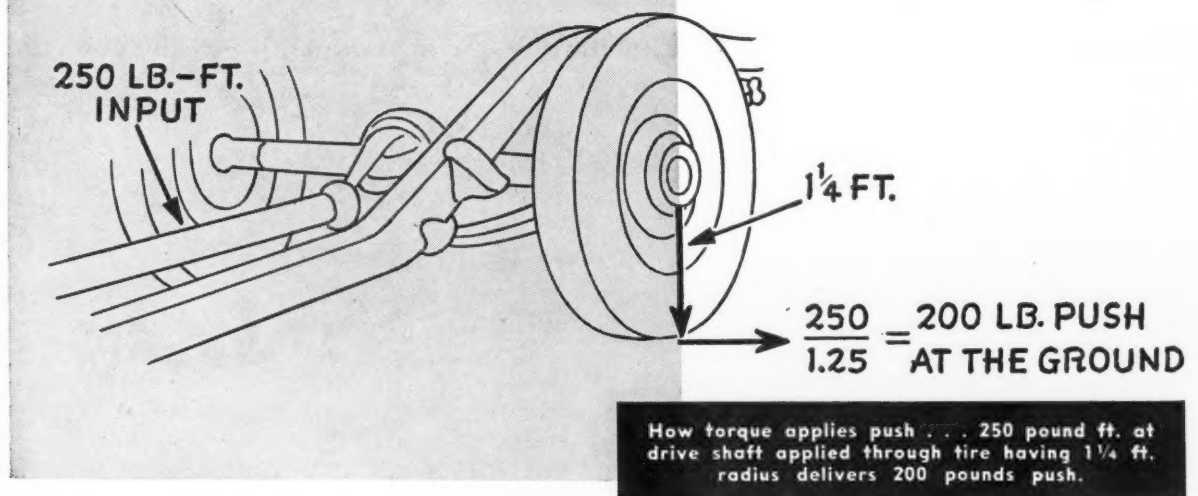
And most important, the parts specialist is *Flexible*—he can change design and tool quickly, which is a terrific problem for the car maker when a large number of changes are made at any one time. Specialists offer constant improvement in quality and cost, and they have introduced a tremendous num-

ber of really fine improvements to the industry. The real problem of the parts maker is to continually offer new improvements, and to keep the car maker sold that a valuable service is being rendered and will continue to be rendered. Parts companies alert in development, techniques and customer relations will prosper.

(Continued on page 128)

by
A. T. Colwell
Vice President
Thompson Products,
Inc.

horsepower is Causing



NOW that V-8 engines dominate the passenger car scene, the 1955 season will become unique in stressing a fresh concept of what constitutes engine performance. From the very beginnings of the industry and up to less than a year ago, HORSEPOWER has been the basis for rating engines and comparing one make with another. HORSEPOWER has dominated our thinking for so long that it is hard to visualize any other concept.

Nevertheless, most of the passenger car producers now are convinced that engines must be rated on the basis of TORQUE rather than horsepower. What is TORQUE? How do you explain it? After all, if many car manufacturers begin to talk and advertise torque, how will the

Car factories are coupling the term *torque* with *horsepower* as the public becomes more performance minded. The meaning of torque is explained here

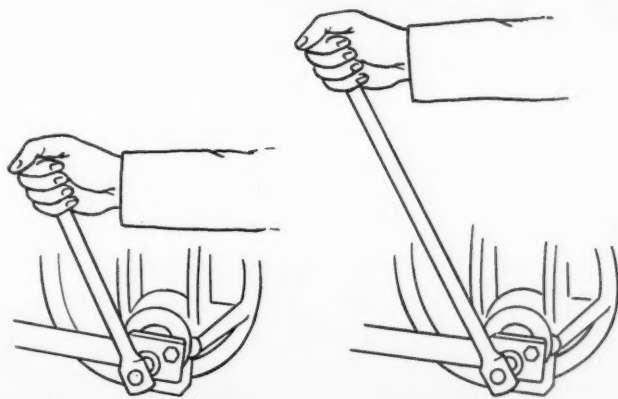
public grasp the idea? How will they react?

Trouble is that torque is a relatively simple concept to the engineers. It is one of the factors in engine performance, just like horsepower, and in fact it is linked theoretically with horsepower output. At the same time, it is something that the engineer finds hard to explain to the layman.

Let's approach it from the standpoint of some

a Lot of Torque

by Joseph Geschelin,
Engineering Editor



20 LB. PULL
1 FT. WRENCH = 10 LB. PULL
2 FT. WRENCH

Torque simplified . . . As shown here, torque varies in direct proportion to the length of the lever.

familiar, everyday things. Every mechanic knows about a torque wrench. The fact is that any time you tighten a nut or a fastening you are applying torque. The true concept of torque is this: when you apply a force or an effort on the end of a lever or wrench, the amount of the force (in pounds)—times the length of the lever (in feet) comes out to torque in pound-feet.

Incidentally, when one is driving a car and handling the steering wheel, he is applying torque. It is the amount of pull on the rim of the wheel, times the radius or half-diameter of the wheel. In power steering, this torque becomes quite small since the effort on the rim of the wheel amounts to only three or five pounds. If the wheel is say 18-in. in diameter, the amount of torque is only 2.5 lb-ft. or 3.75 lb-ft., depending upon the setup.

Now the engine behaves exactly the same way.

Engine torque is given in terms of so many pound-feet. If the manufacturer rates it at say, 250 lb-ft. torque, that means it is capable of exerting a force or effort of 250 pounds at a radius or lever arm of 12 inches.

Torque is more important than horsepower when we think in terms of accelerating the car from a standstill, as at a traffic light; or accelerating on the highway at speeds of say 50 to 60 mph. For torque is what is doing the work at the rear wheels. What counts is how much push the engine provides where the tire contacts the road. The more the push from the engine at this critical time, the faster you can get away.

If we take the same engine, with 250 lb-ft. torque rating, and assume the car has 15 x 7.50 tires, the push on the contacting face of the tire will be 200 pounds. You get this by dividing the torque in lb-ft. by the number of feet of the lever, in this case, $1\frac{1}{4}$ feet. Now if a competitive car has an engine with 300 lb-ft. torque rating, the push will be 240 lb or 20 per cent more effort. The latter will accelerate correspondingly faster.

Of course, to be correct from an engineering standpoint, we shall have to assume that both cars have about the same weight otherwise the heavier car will not respond in the same proportion. That is why the heavier cars require more torque to have the same agility as lighter cars.

In any event, it is not horsepower but TORQUE that keeps the car rolling or gives it acceleration when needed.

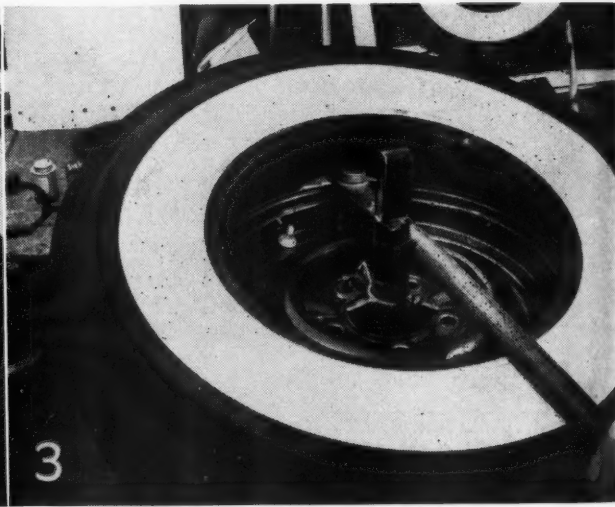
This concept of torque has made it necessary for engineers to revise their thinking about engine design, valve and ignition timing, and

(Continued on page 134)

Basic Training

The ABC of

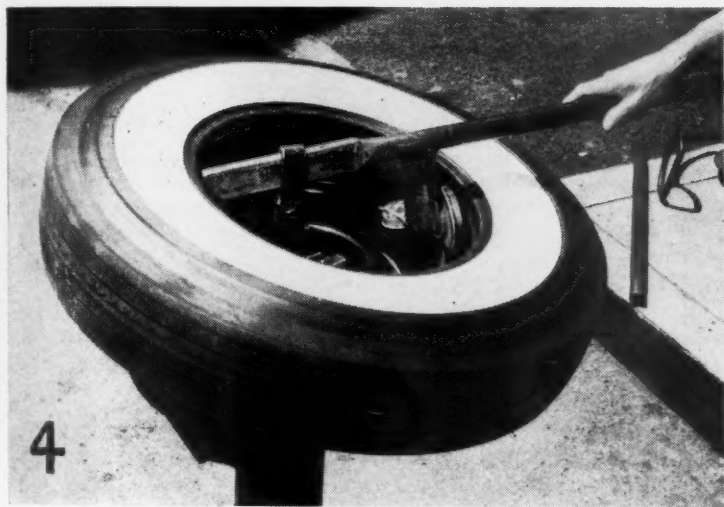
by Jack Montgomery, Technical Editor



Tubeless tire service doesn't require a specialist. Everything you need to know

THE automobile industry moves fast, and it's no small task for the tire industry to keep pace with Detroit. Tire makers have met their challenge by producing better tires as the industry progresses. They are safer, last longer, weigh less, ride smoother, run quieter and look better than tires of yesteryear, according to industry reports.

The American motorist can now buy a tire that he never dreamed of in 1949. Depending upon the make and grade he chooses, he may have as many as a dozen new features available. It may be tubeless, with all nylon cord and a new type of silent tread. It is said to be stronger and safer, with reduced danger of blowout and better non-skid characteristics. It



1. Break the head from the bead seats in the regular manner. Apply special lubricant around beads before inserting rim tools to prevent tearing the rubber.
2. Press the side of tire into the rim well and remove the outer bead.
3. Remove the inner bead in the conventional manner.
4. Install the outer bead. Coat the rim and beads with special lubricant to prevent tearing the bead rubber.
5. Apply special lubricant to the bead and rim before applying air.



is given on these and the following pages

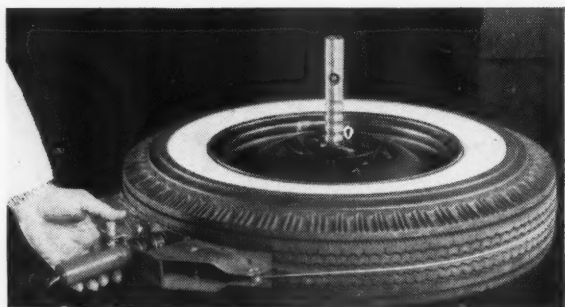
may be puncture sealing. Manufacturers say it will run over 20 per cent longer than its predecessor of 1949 and will run cooler at high speeds. It may have a strip to protect the white sidewall from curb damage.

The newest of these features is the tubeless design. Practically all cars are equipped with
(Continued on page 46)



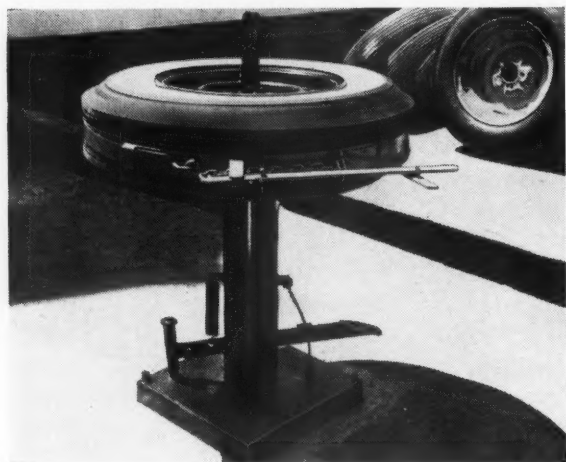
Special tool pushing the outer bead into place.

Basic Training



Cable type compressor in position. Tightening the cable forces the beads against the rim.

Band type compressor shown in position before applying air.



Balancing the tire and wheel after installation has been completed. Tubeless tires are said to be easier to balance than conventional types.

tubeless tires at the factory. Many car owners are buying them as replacements.

But how do tubeless tires differ from conventional tires? From all outward appearances they look the same, but inside is a layer of soft rubber .050 to .070 in. thick. The bead is ribbed for additional sealing power.

Some tire makers point out that the tubeless tire has many advantages for the motorist as well as for the service man. It runs cooler, an important factor in modern high speed travel, because there is no tube to chafe the inner carcass of the tire. The tire is easier to mount and dismount, easier to repair and easier to balance.

Probably the most important feature of the tubeless tire is the blowout protection it affords. These tires do not "explode" as a result of a blowout in the way that conventional tires have been known to do. They go down slowly giving the driver a chance to control the car until it is brought to a safe stop.

Providing the rims are in good condition, tubeless tires can be installed on older cars using drop center rims. While special tire



Removing inner bead with hand tools. Application of lubricant on the rim edges and tire bead makes removal easy.



Using hand tools for removing outer bead. Extra caution should be exercised to prevent damaging the beads.



Always examine the valve stem seals. Remove any rust accumulations to insure a good seal at the valve as well as along the rim.

Mounting Tubeless Tires With Hand Tools

Install the valve stem in the sequence shown after the surface is clean and coated with a rubber lubricant.



changing tools are not necessary, they will save a lot of time and make the job much easier.

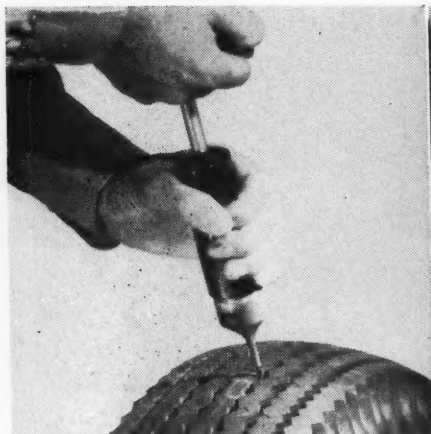
Machines are available for mounting and dismounting and they are advisable for economy of time. For dismounting, the tire and wheel assembly is placed on the machine. Remove the valve cap and valve core leaving all the air out. Use the bead loosening tool to press the



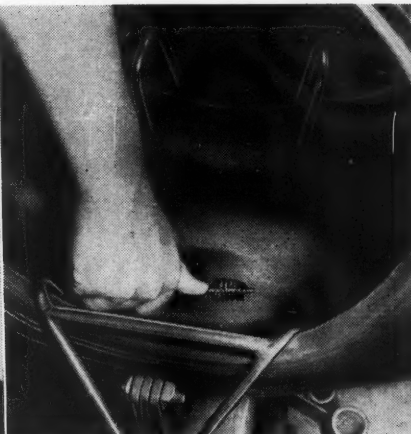
beads into the rim well. Never use a hammer on any tubeless tire as the bead might be damaged. Insert the dismantling bar and run the outer bead off the rim. Then the inner bead. Before mounting the following points should be remembered.

The rim must be clean and smooth to insure proper sealing. Coat both the tire beads and the bead seats with rubber lubricant. Use a special tire mounting band when applying air. Protect the beads by using tools with caution.

(Continued on page 48)



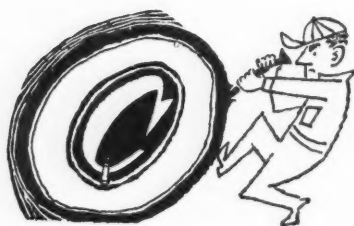
Using the gun method for sealing injuries up to 1/16 in. diameter.



Clean an area 3 inches in diameter around the injury by buffing.



Apply cement to the stem of the plug and push the plug in place.



Repair Method for Tubeless Tires

Continued from Page 47

Make sure the valve stem is installed properly.

The mounting band is used as follows. Slip the band around the center of the tread and engage it. This compresses the tire center forcing the beads against the rim seats. Inflate enough to hold the seal. About 5 lbs usually is enough. Remove the mounting band and inflate to 40 lbs. Check to be sure the bead has slipped into place, then deflate tire to recommended pressure. On some type rims it may take 50 lbs of air pressure to seat the beads.

Tubeless tire repair or servicing can be done with hand tire tools, using the following method.

Dismounting—After air has been let out of tire completely, the tire bead is broken away from the rim. It is best to use a bead breaker for this operation with care being taken to prevent damage to the soft rubber on the bead.

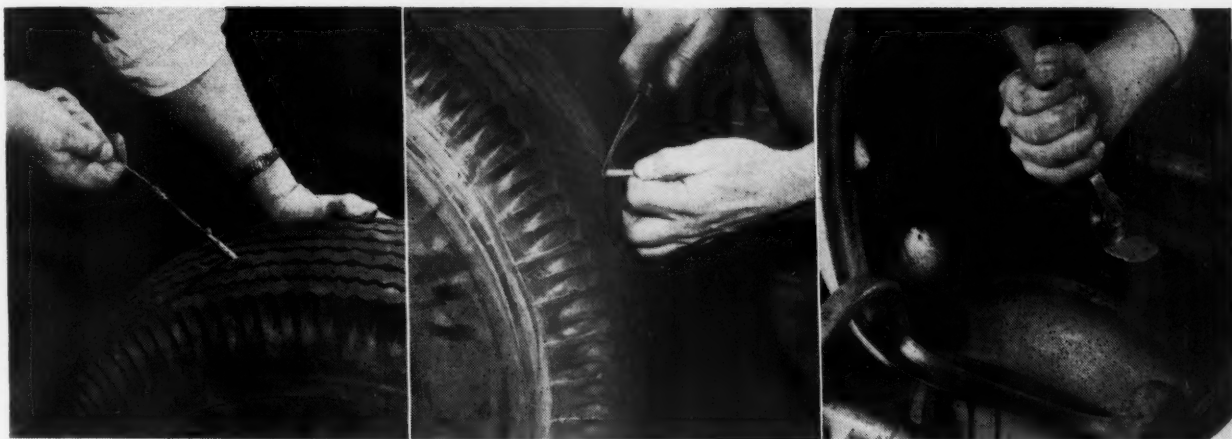
Beginning at the tire stem, use tire tools and bring the edge of the bead up over the rim. Proceed around the tire taking small bites

until the top bead is outside the rim. By starting at the tire stem there is no chance of the last section of the bead rubbing up across the inside metal shoulder of the stem and injuring the tire bead. Turn the tire around and bring the bead over rim near valve stem. Continue around the rim taking small bites until the tire falls off rim. The tire is now free for necessary repairs.

Mounting

When tire is ready for remounting, use special lubricant on the beads and rim edges. Position the rim over the inner tire bead. Raising the rim slightly and then rapidly pushing the rim downward forces it securely into the tire for a start. By laying the assembly on the ground the balance of bead is slipped over the rim by pulling small sections of bead over the rim and forcing the rim downward with the foot until the rim pops into place.

A single tire tool is used to start the outer bead over the rim. Never hammer the bead of



Pull the plug in place with a steady movement to secure it.

After the plug is firmly in place trim it slightly above the tread.

Stitch the patch to remove air bubbles after the plug is in place.

Special tool for holding the hot patch in place. The injured area should be cleaned with a solvent before applying the hot patch.



Check for leaks by submersing the entire wheel and tire in a tank. Look for bubbles at the patch and around rim edges.



tubeless tires over the rim. Hammering the bead is a sure way to rip it. If the bead is damaged the tire must be used as a regular tire and tube combination.

After the bead is started, use a second tire tool and take small bites around the rim, forcing the bead over the rim.

The tire must now be more or less centered on the rim with the beads against the metal rim so that the tire will hold the initial shot of air when it is applied. This can generally be

done by jarring the tire and rotating the wheel at the same time until the tire bead is against the rim. If this fails, tie a small rope around the tire tread and, using a tire tool under the rope, twist it around several times, making a tourniquet. This compresses the tread.

Or, with the tire in an upright position, press with your knee against the inside of the wheel and pull the tire towards you. This will start the inside bead onto the bead seat. Then

(Continued on page 155)



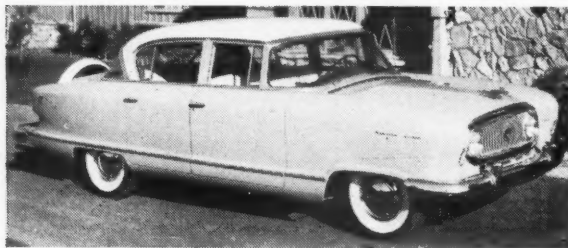
The Ambassador Custom is shown above. Improved "deep coil" suspension and reduced turning radius are among the new features.

American Motors

Opens the Door on

A new V-8, a more powerful six and a number of styling improvements head up the Nash story as American Motors announces its line

This view of the statesman four-door sedan shows the wrap-around windshield and restyled fenders. Headlight location was inspired by the Nash-Healey car.



A WRAP-AROUND windshield, new front fenders and hood plus a new die-cast oval-shaped grille which incorporates the headlamps are the main styling refinements for Nash Ambassador and Statesman models in 1955. Ambassador models will be powered by either an overhead valve six with dual carburetion which develops 140 hp, or by a 320 cubic inch overhead valve V-8 which develops 208 hp at 4200 rpm. The accompanying table gives more detailed specifications on this engine. Its bore is 3 13/16 in., stroke 3 1/2 in. and compression ratio is 7.8 to 1. A two-barrel carburetor is used.

Hydra-Matic transmission will be optional with the six; Ultramatic will be standard with the V-8.

The Statesman will have an L-head, six-cylinder engine which develops 100 hp with a single throat carburetor or 110 hp with an optional two-barrel carburetor. Hydra-Matic is available as an option on Statesman models.



Above. The Hudson Wasp four-door sedan with completely new body styling. It is powered by the 104 hp Hi-Torque engine.

Below. The Hornet Hollywood hardtop has a choice of three engines, newest of which is the 208 hp overhead valve V-8.

'55 Models

New beauty for Hudson in restyled body lines and wrap-around windshield. More power for the series in a new V-8 and two L-head sixes

COMPLETELY restyled inside and out, Hudson will offer a choice of three engines in the 1955 Hornet series. The 320 cu. in., 208 hp V-8 will make its debut along with the L-head Championship six. Also available is the six with Twin H-Power. Wasp models will be powered by the Hi-Torque engine.

The L-head Championship six offers Twin H-Power as optional equipment. This engine, featuring an aluminum head as standard equipment, develops 170 hp at 4,000 rpm. It has a



American Motors Corp. Condensed Specifications on V-8 Engine

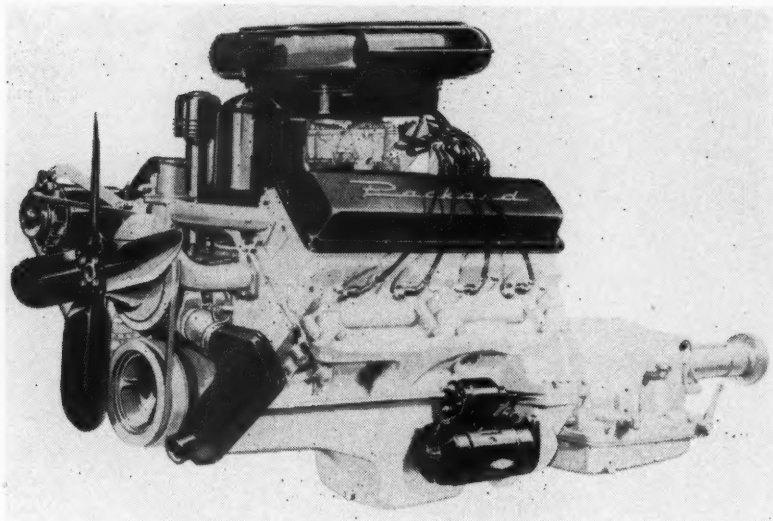
Bore (in.)	3-13/16
Stroke (in.)	3 1/2
Displacement (cu. in.)	320
Compression Ratio	7.8 to 1
Bhp (max.)	208 @ 4200 rpm
Torque (lb. ft.) max.	300 @ 2000-2600 rpm

compression ratio of 7.5:1. Displacement is 308 cubic inches.

The same engine (available without Twin H-Power) also features an aluminum head as standard equipment and produces 160 hp at 3,800 rpm.

Compression ratio for the Wasp engine is 7.5:1, with a 3 x 4 3/4 in. bore and stroke. Horse-

(Continued on page 188)



Horsepower on the new Packard V-8 engine (left) ranges from 225 to 245 on Clipper models and 260 on the Packard. Compression ratio is 8.5 to 1.

The 260 hp Packard Patrician (right) has new styling and features the "torsion-level" suspension.

Packard's V-8 Power

Presented in a Style Parade

THE Packard and Clipper automobiles for 1955 offer a new kind of ride; top performance in new V-8 engines; a new Twin-Ultramatic transmission, new styling and more than 100 other advancements.

Highlight of the new Packard models is the luxurious Four-Hundred, a Packard hardtop. The Constellation, another hardtop, is the star of the Clipper series of cars.

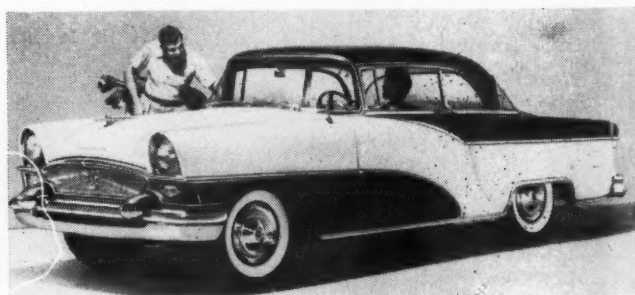
In addition to featuring new V-8 engine performance, Packard and Clipper Custom models introduce the Torsion-Level Ride.

Packard torsion bar suspension completely replaces the conventional front-coil and rear-leaf springs.

The new Twin-Ultramatic is standard equipment on all Packard models; optional at extra cost on Clipper models. Starts are quicker and smoother than before because Twin-Ultramatic makes them with an important assist from an additional low-gear ratio within the transmission.

Although a family resemblance has been re-

The Clipper Constellation hardtop model has a 245 hp engine, unusual two-tone styling and "torsion-level" suspension.



tained, Packard and Clipper models portray different styling concepts. Both lines have sweep-around windshields.

The Packard models sweep back from a functional frontal design into a massive appearance.

(Continued on page 90)

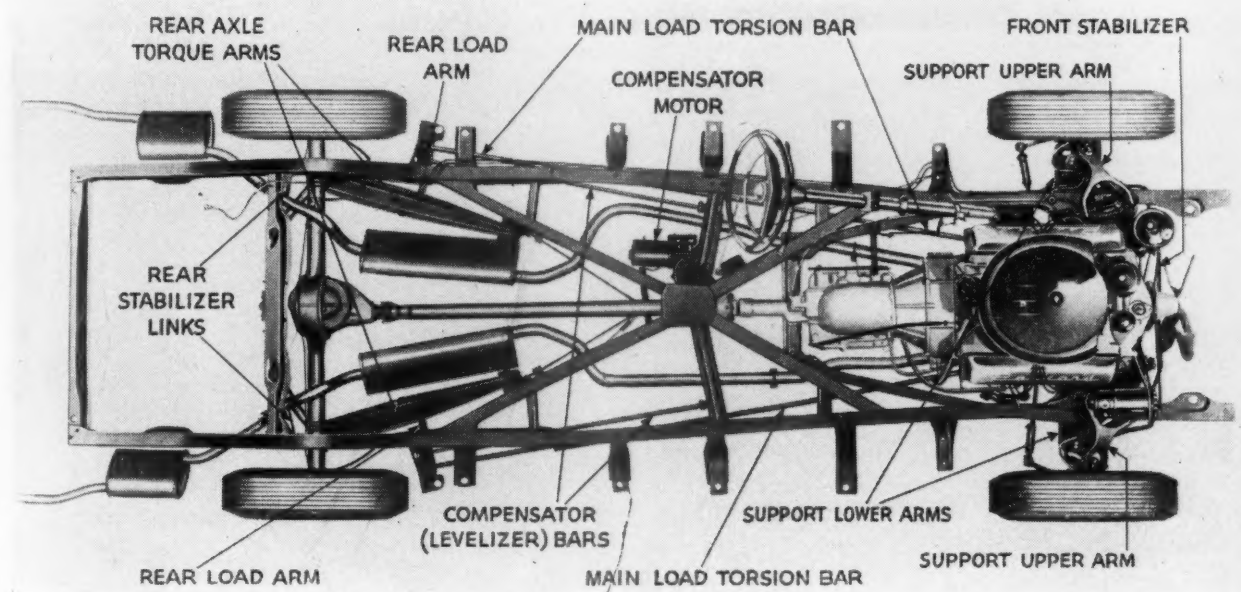


Packard and Clipper lines offer new engines, torsion bar suspension, an improved Ultramatic transmission and completely restyled bodies for 1955



Layout of the "torsion-level" suspension is shown below. Coil and leaf springs are completely eliminated in Packard's version of torsion bar suspension.

An innovation is this exterior courtesy light which lights when the doors are opened and goes on with the driving lights for safety.





The Kaiser Manhattan four-door sedan, shown above, continues with its 1954 styling.

Kaiser — Willys

Show Their

The Willys Bermuda hardtop is shown below. Notice the new grille and two-tone styling. This model replaces the Eagle.



Big changes in the K-W line this year are the two new models in the Willys passenger car line plus a restyled Jeep. Kaiser models retain '54 styling

WILLYS and Kaiser passenger cars for 1955 made their bow in dealer showrooms early this month. Two new Willys models highlight the 1955 offerings. The Willys Station Wagon, Kaiser Manhattan four-door sedan and the Kaiser Darrin sports car remain unchanged in over-all styling from 1954.

The new Willys cars are the Bermuda, two-

door "hardtop" sedan which replaces the Eagle, and the Custom four-door sedan, which replaces the Ace. Restyled inside and out, the 1955 Willys models feature a new full-width grille with concave vertical chrome louvers and built-in parking lights. The upper portion of the grille is open for engine cooling. Blending with the front styling are new bumpers and bumper guards. Chrome visors over the headlamps and a new chrome-plastic hood ornament are other features. Also new is a broad chrome molding which extends back from the hood ornament the full length of the hood.

A new chrome molding which flows from headlamp to tail light, curving downward along the rear quarter panel provides a separation for two-tone paint combinations. A second chrome molding appears near the crown of the rear quarter panels. "Bermuda" and "Custom" chrome script nameplates are mounted near the forward edge of the front doors. For models so equipped, the word "Hydramatic" appears in chrome script on the rear quarter panels.

Easier steering and easier servicing are among mechanical improvements claimed for '55. These are provided by a new worm and roller steering system with a 22.4 to 1 overall ratio. A new hydraulic brake fluid filler tube is located on the cowl for quick accessibility.

All models are powered by the 115-hp Willys "Super-Hurricane" engine with double-barrelled carburetion.

The 1955 Jeep, its lines and finish replaced by softening curves and brilliant colors, is also announced. New features incorporated into the
(Continued on page 136)

'55 Line

The new version of the Civilian Jeep is powered with a 75 hp F-head engine. The Jeep is longer and wider, has more color options.





The XK-140 Sports Roadster is available with overdrive or automatic transmission as optional equipment. Horsepower is up to 190.

A New Jaguar for '55

The restyled "Jag" offers more power, a wider range of transmission options, rack and pinion steering, increased seating and luggage space

JAGUAR has unveiled its 1955 line of cars—roomier, sleeker, faster. Higher horsepower and refinements in styling mark the four new models.

Top surprises were the option of automatic transmission in the sports car line, the option of overdrive in all standard gearshift models and rack and pinion steering.

Prices of the sports convertible and hardtop coupe were announced as \$160 and \$80 lower respectively than in 1954.

The 1955 Jaguars stress higher engine power, greater roadability and increased seating and



Upper. The Sports Coupe, as well as the roadster, is available in models up to 210 hp. The Mark VII sedan (above) features a sliding sunshine roof and improved styling in addition to increased road performance.

carrying space for luggage and tools.

The new cars have been designated the Mark VII "M" sedan and the XK-140 sports car line, comprising a two-seater open Super Sports road-

(Continued on page 138)

One to Remember

(FOR YOUR BULLETIN BOARD)



**BUSINESS FLOWS
LIKE THE CATSUP BOTTLE
FIRST NONE'LL COME
AND THEN A LOT'LL**



"Is that a promise, or will you really have my car ready by 5 o'clock?"



"Well, whenever we have casseroles, it's leftovers!"



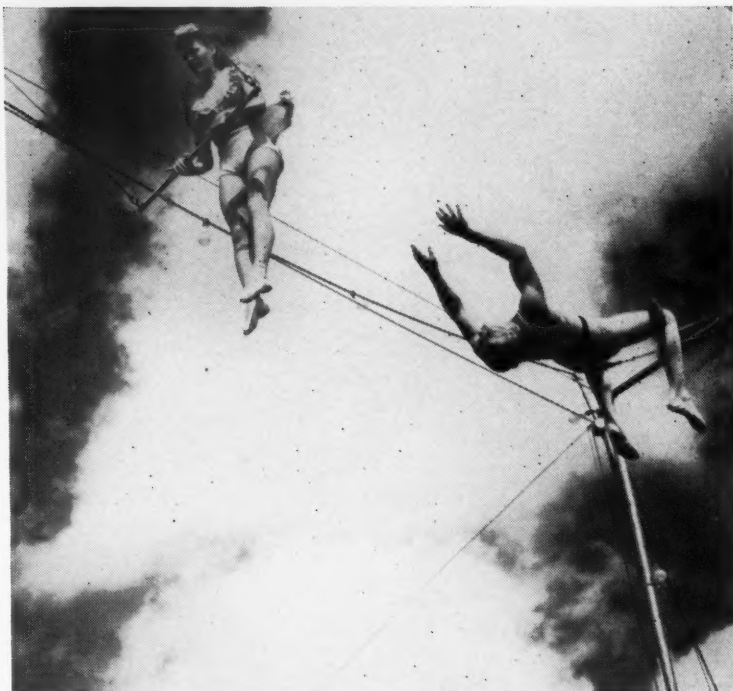
"Goodbye, Mother."



"Every time his wife has his automobile he waits for her there."



ORGANIZATION



Means Good Teamwork (Part IV)

After the responsibilities of the various members of the firm are designated and organizational charts are made, the plan should be put down in black and white

THE first step in good general management is to assign definite responsibilities to specific people; and the second is to maintain checks to be sure the duties involved are being performed properly. Unless the top ex-

ecutive of any business knows what jobs have to be done, who is supposed to do them and that they *are* being done, his chances of operating profitably are not very good.

Previous discussions of this series have brought us to the point of developing an Organization Chart portraying logical groups of responsibilities. Once these responsibilities have been assigned to appropriate people, Mr. Top Executive will always know
(Continued on page 104)



There's Plenty of Pie

for Everyone

AN appropriate story in this era of hard work and stiff competition is the classic of one service manager who asked another, "How do you find business these days?" "How do I find business?" was the reply, "why, I go out and dig for it!" And like many other successful business men he finds plenty of business when he goes out after it. Car registrations are increasing and average yearly mileage per car is increasing as well. True, the number of service outlets is up too, but not in proportion to registrations. There is more business for everyone!

But service must be sold! The average motor-

ist will ask for just the minimum of service, so any work in excess of the minimum must be recommended—and sold—by the serviceman. The work is there, however, as indicated by the results of a survey just completed by MOTOR AGE in cooperation with the editors of *Chilton's Flat Rate & Service Manual*. The results of inspections on over 10,000 cars showed the need for over 5000 different services of one type or another. Wheels were pulled and brake lining inspected on each car. Included in the findings were 1987 brake adjustments, 1474 brake re-lines, 910 front end and steering alignments and



**Motor Age's editors stuck their thumbs
into five automotive service business
pies and pulled out six juicy plums**

by Arthur H. Nellen, Jr.
Managing Editor

overhauls, 621 wiper motor and blade repairs or replacements, and 424 muffler replacements. In addition to this there was a large volume of tires, glass replacements, light adjustment and replacements, and many other safety factors.

This survey was made on safety items only thus excluding engine and transmission work, appearance services and accessory sales, but it does indicate the tremendous volume of service which can be sold on our country's sixty million passenger cars and trucks. All the above mentioned work was needed, sold and completed! But it's only a drop in the bucket compared to

the potential of the automotive service market. If every motorist were to spend just ten extra dollars per year on things automotive—if he were to have his filter cartridge changed before the oil gets black—if he were to have his wheels balanced before the tires start to cup—if he were to buy seat covers before

the upholstery wears through—if his serviceman were to make recommendations when they were necessary, the automotive service industry cash register would bulge with hundreds of millions of extra dollars annually.

How to go after this business? It's easy—just ask for it! Most car owners won't ask to be sold, but they can be sold if they're asked. Service, parts and accessories don't normally enter the motorist's mind as something he should buy now, unless he's in trouble.

But the man or shop that services his car has
(Continued on page 62)

There's Plenty of Pie for Everyone . . . Continued from page 61

a golden opportunity to make car owners *want* to buy (this act is known as selling!) Here's how to do it.

1. Show him the need for the service, parts or accessory. Often this is self-evident once he is reminded of it.

2. Create a desire in the prospect to buy your product or service. Show him its advantages from the money saving, appearance enhancing or performance improving standpoint.

3. Close the sale. Say "when can we have your car to do the job," not "may we do the job?"

Don't over-sell, as this will cost a shop business in the long run. But be sure to suggest whatever the customer needs or may need. Follow these recommendations with a good sales talk, good products and good service, and business is bound to be good.

Body service, too, has a tremendous untapped market. MOTOR AGE editors examined over 1,000 cars with dents and other forms of exterior body damage and discovered that 12 per cent of the cars needed metal work of some kind. Some dents were relatively minor damage, but all of them bad enough to detract from the appearance of the car.

Psychology is especially important in selling body work. Understanding what makes the customer "tick" will help in choosing the right approach at the right time. The motorist can drive a dented car without any harmful effects on performance or safety, so he often "gets used to the dents," rather than to have them repaired. In fact he may even forget he has them! That's why so many car owners are shocked when a used car appraiser unmercifully tells an owner the truth about the value of his car.

The service salesman, however, should exercise more tact than the used car appraiser. His job is to convince the owner to have the damage repaired, rather than to invest in a new car. He wants to convince the owner that his car is worth the investment of a few dollars, rather than to convince him that it's "money down the drain."

OVER 12 OUT OF EVERY 100 CARS

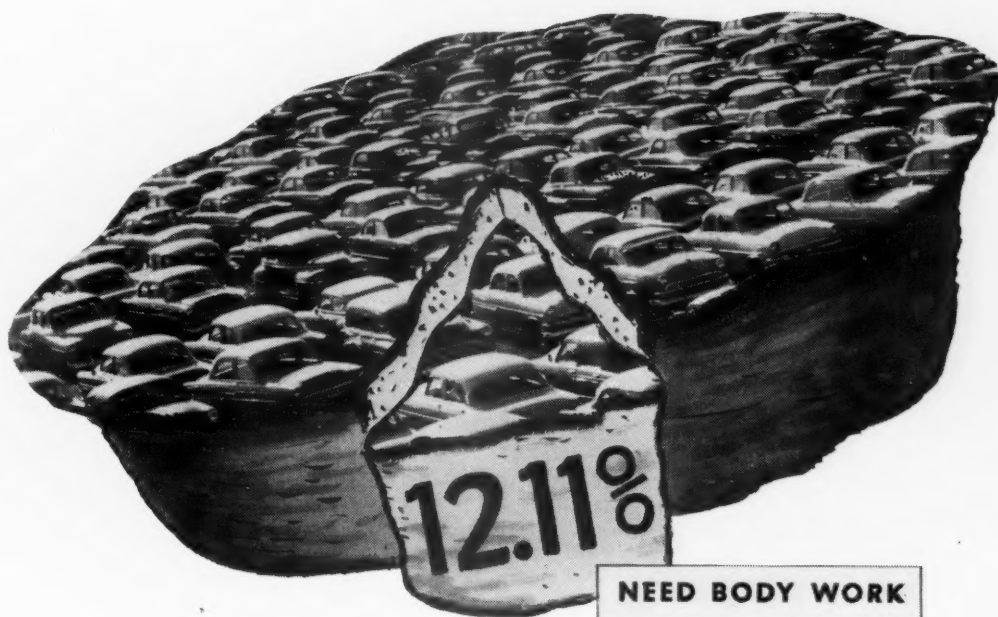
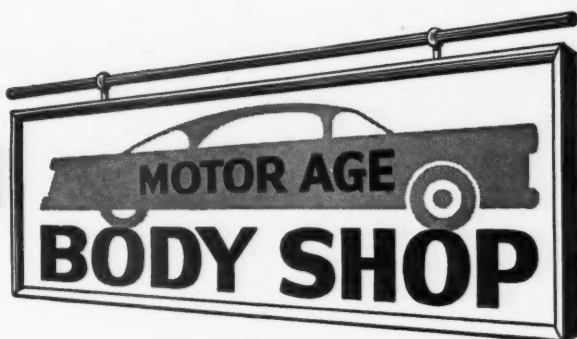
The first, and most important, step in selling this overlooked market is to watch every car that comes into the shop. Be on the lookout for body damage and it's bound to show up. The customer who comes in for tune-up or other mechanical work may have forgotten that he has body work that should be done, and a gentle, but firm reminder may help to make a sale.

The majority of the cars that need body work may never come into your shop, however, unless they are "invited." That's where sales promotion and advertising programs go to work. The yearly campaign for "DOOF." (National "Get the Dents Out Of Your Fenders" Month) is an example of a successful program of this type. Body shops are supplied with direct mail pieces, window streamers, wall posters, and miscellaneous promotion devices to make the motoring public conscious of auto body care during the month of June. Reports from body shops indicate that this effort is a real "shot in the arm" in the spring. The "DOOF" campaign not only helps to bring the customer into the shop, but also helps show him, through posters, what the customer gets in service for the price he pays. This is an important phase in selling body service.

On the other hand, some shops prefer to use their own ideas and materials to bring in new customers. One method is to tag cars with cards on which are quoted estimates on damage noted. The owner is invited to come into the shop for a first class job at the estimated price. A number of variations on this theme can be used with an original touch.

Other tested and proven methods include special offers through newspaper ads, direct mail or radio and television spots. The main thing is to

NEED BODY WORK



make the motorist "dent" minded and to bring him into the body shop while he is thinking about it.

The results of the above mentioned survey, showing that 12 per cent of the cars on the road need metal work, ties in with a previous editorial investigation (*MOTOR AGE*, November, 1953). In this case 19 per cent of all 1946 to 1951 cars were found to need refinishing. Combine these two body service markets with the many other services which a body shop can offer and the

prospects for the coming year look mighty good.

Another point in favor of the body shop market—a car doesn't need 25 thousand miles on its speedometer or need to be two years old before body work can become necessary. It may suffer a dent—or worse—the day it leaves the showroom.

The market is BIG and it is growing. The body shop which recognizes this, goes after the business, and gives quality service will grow along with this expanding market.



BIG TOP



▼ 1. Tire Rounder

Hunter Engineering Co.: The "Tru-Up" portable tire rounder trues tires on the car and is said to handle tire sizes up to 8:25 x 20. Completely automatic after initial setting, the unit is claimed to produce a clean, new surface on a tire tread in a few minutes. The abrasive action of

the unit is provided by a special cloth grinding belt.

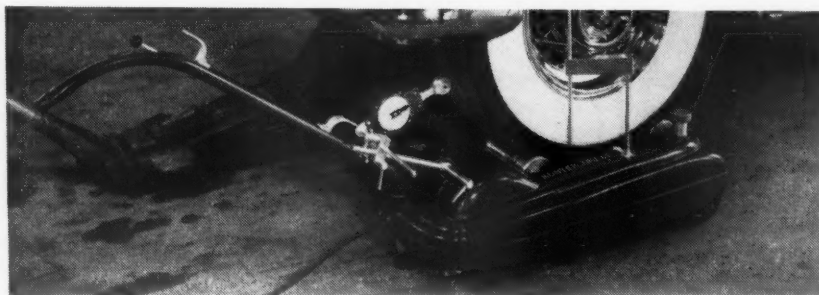
▲ 2. Brake Shoes

Grey-Rock Div. of Raybestos-Manhattan, Inc.: Grey-Rock's factory bonded brake shoe sets, designed to meet severe braking requirements, combine woven linings with molded linings. In

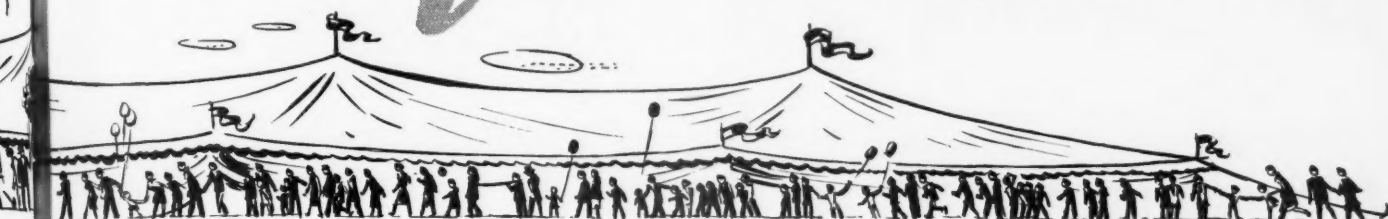
other sets, special molded types are used where all-molded combinations give best results. To insure good lining to drum contact, each shoe is radius ground to a standard diameter.

▲ 3. Ignition Guard

Elec. Auto-Lite Co.: Known as a "point guard" this device is said to prolong the life of points by limiting current flow through the primary circuit of the ignition system between coil and distributor. Contained in a two-inch bakelite cover with a terminal at one end and four-inch wire at the other, the unit is said to be most effective in cold weather.



Profit Makers



▲4. Tinning Tool

Marson Corp.: Known as the Tin-Master this tinning tool is said to utilize a replaceable cartridge with a flux core and impregnated steel wool outer jacket that digs in to remove rust and pits. The tool scrapes and tins in one operation.

►5. Crankshaft Grinder

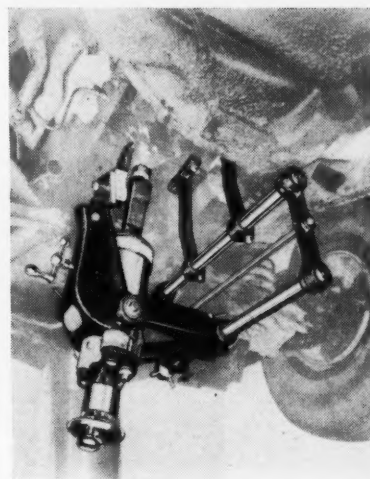
Sunnen Prod. Co.: No special skill is required for operating the portable crankshaft grinder, is claimed. Usually only one



mounting to the engine block is necessary because two or more throws can be ground without resetting the brackets.

▲6. Towing Crane

Manley Div., American Chain & Cable: A five-ton crane, for any load that a $\frac{3}{4}$ to a $1\frac{1}{2}$ -ton truck will handle, has been developed by this company. It is said that a single part line is used to raise and lower loads under power directly from the power take-off.



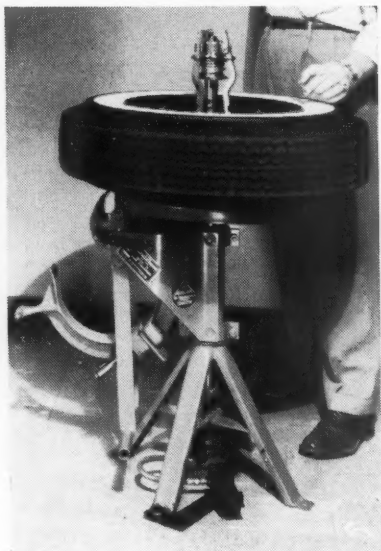


BIG TOP

Profit Makers

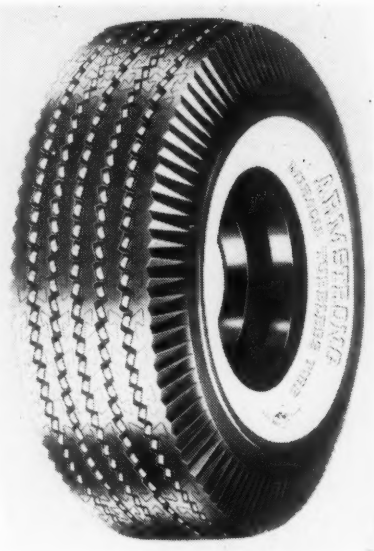
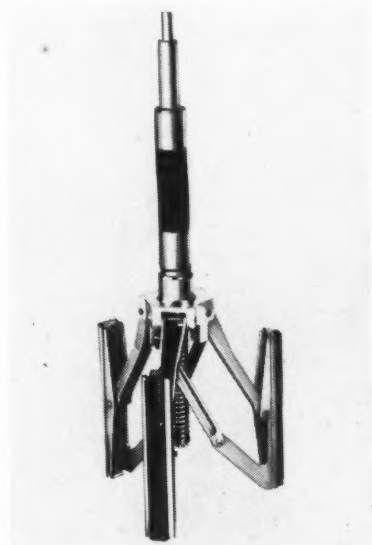
▼7. Tire Changer

Big Four Ind., Inc.: The Henderson "Air Lock" tire changer-wheel balancer is designed to service tubeless tires. An automatic machine that eliminates the use of hammers and tire irons, it can accomplish a tire change and wheel balance in a matter of minutes, the maker states. With the "Air Lock" device a touch of the unit's foot valve automatically centers and locks the wheel in place, it is said.



▼8. Tubeless Tire

Armstrong Rubber Co.: A butyl rubber liner inside the case of the "Miracle" tubeless tire takes the place of a tube. The air-resistant liner is bonded to the tire itself and offers protection against blowouts, the company reports. Small rubber bumpers molded to the side of each tread act in keeping the gripping edges apart for better side skid control, braking traction and muffling of squeal, the company claims.



▲9. Cylinder Hone

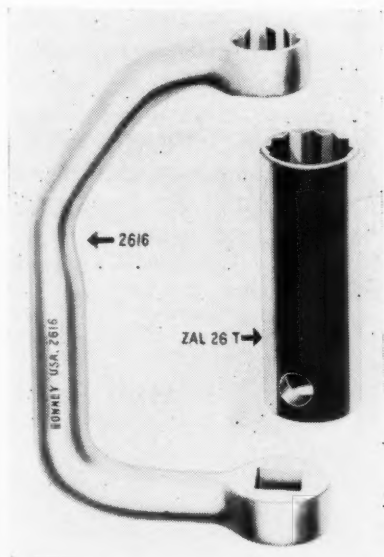
Ammco Tools, Inc.: Here is a glaze breaking cylinder surfacing hone that uses three stones to give a perfect finish, it is claimed. A flexible drive shaft allows the operator to get at cylinders under the fire wall when honing the block. It is spring loaded to provide constant honing pressure. Driven by either a ¼ inch, ⅜ inch, or ½ inch electric drill, this hone's range of 2 inches to 7 inches will cover all passenger cars, in addition to a variety of small and large engines, according to the maker.

► 10. Pneumatic Lift

Bay Mfg. Co.: This portable pneumatic one-end lift can raise either end of the vehicle 0 to 50 inches in ten seconds, the maker states. The lift does not extend beyond the car when in use and stores on end in 27 square inches of space. There is a two-stage valve to insure complete control and an automatic locking device that insures safety.

11. Tubeless Tire

Seiberling Rubber Co.: A new tubeless passenger car tire, known as the "Safety" tubeless, features a leak-proof inner liner which is claimed to reduce the danger of sudden blowouts and prevent air from "seeping" into the body of the tire or escaping around the beads.



▲ 12. Wrenches

Bonney Forge & Tool Works: Here is a cylinder head wrench for torquing head bolts. It is a $\frac{5}{8}$ inch double hexagonal square drive, 5 $\frac{11}{16}$ inches long, with a 2 $\frac{5}{8}$ inch sweep. The "Bon-E-Con" $\frac{1}{2}$ inch drive deep socket wrench for removing the #3 spark plug on the left bank is



3 inches long, with a $\frac{13}{16}$ inch opening. Both are for servicing 1955 Chevrolet V-8's.

13. Promotion Program

Walker Mfg. Co.: The main feature of this company's 1955 merchandising program is the publication of a booklet containing the personal notes, sketches and photographs of the late Wilbur Shaw on his recent visit to its exhaust system plant. In addition, the Silencer program incorporates store display material and direct mail program for distributors, a promotion kit for dealers, and trade paper and consumer magazine advertising.

► 14. Pneumatic Tool

Chicago Pneumatic Tool Co.: According to its maker, the "Zip Gun" cuts, shears, drives and scrapes. Five accessories are included in this tool's kit to handle the jobs. A spool valve design provides control of the right power response for panel trimming or wide open slugging action. Average air consumption is only 4 c.f.m., the same

amount of air needed to operate a grease gun, it is claimed.

15. Timing Light

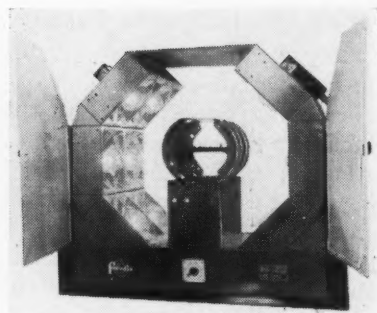
Tungsten Spark Plug Mfg. Co.: The Tungsten timing light tests 6-12-and 24 volt or magneto operated ignition systems. The brilliant white light is achieved thru the instantaneous discharge of power stored in the condenser bank between flashes. The discharge is said to be constant, and the timing marks show up regardless of engine speed, as the power for the stroboscopic Light is from a 110-125 volt AC Power line.





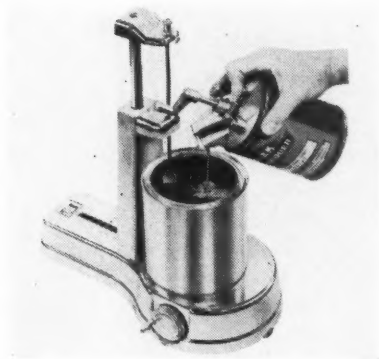
BIG TOP

Profit Makers



▲16. Blower Furnace

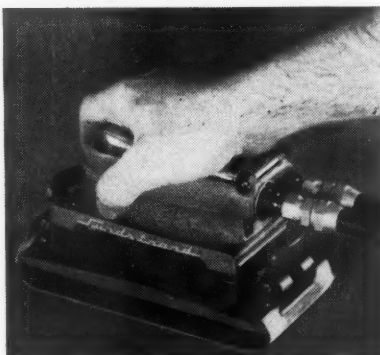
Clayton Mfg. Co.: The "Salamander" is a self-contained, portable, blower-type furnace. It delivers high velocity heated air at the rate of 2400 cu. ft. per minute. The firm states that the unit is designed for use in thawing out used car displays, heating open and semi-enclosed storage spaces, and pre-heating trucks and other power equipment. A gasoline driven and an electric model are available.



▲17. Color System

Rinshed-Mason Co.: The "Tintometer" is an instrument for intermixing either enamel or

lacquer finishes to exact color matches. With this system a paint inventory that requires an 8 by 12 foot shelf area will make available over 5,000 different car colors reaching back to 1939, the maker claims.



▲18. Power Sander

Sundstrand Mach. Tool Co.: The only orbital-type air sander with built-in water attachment for wet sanding, the Sundstrand is said to be good for rough sanding and preliminary "make ready." The sander can be used next to edges, moldings and in tight corners, it is said, and features a palm lever control on top which operates both air and water by a slight downward pressure.

19. Infrared Oven

Fostoria Pressed Steel Corp.: An infrared oven for bonding brake linings to shoes has been introduced by this manufactur-

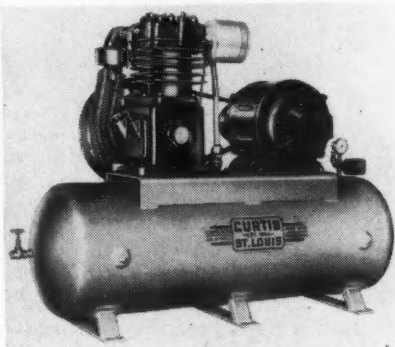
er. According to the company, six pairs of shoes can be processed in one ten-minute baking cycle. No preheating of this oven is necessary, and it is said to be efficient for the baking of generators as well.

20. Tire Regroover

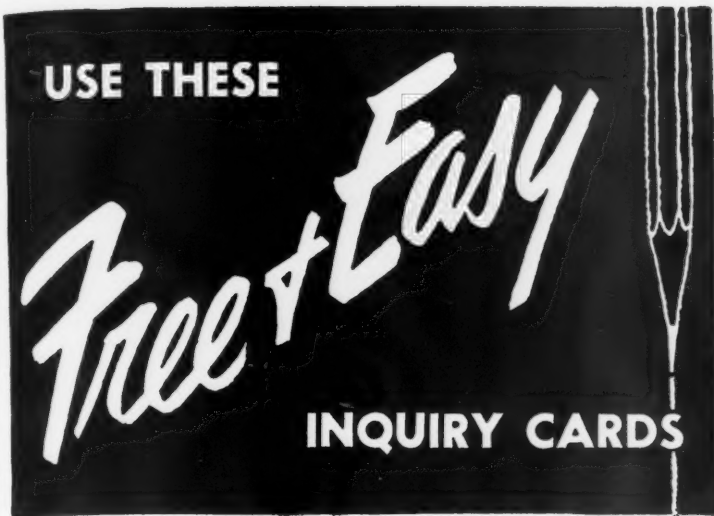
Keystone Rubber & Equipment Co.: A new machine to regroove tires, the "Uni-Gruve" Traction-Grip tire regroover, automatically regrooves a tire in six minutes, according to an announcement by the maker.

▼21. Air Compressors

Curtis Pneumatic Machinery Div. of Curtis: The cooling fins have been redesigned and enlarged to produce a greater cooling area on this line of



air compressors, the producer claims. All these compressors have a positive pressure lubrication system consisting of one moving part. They are available in sizes from 1/4 horsepower to 50 horsepower (300 CFM).



The Inquiry Card—How It Works

EACH month Motor Age's New Products Show Window describes dozens of fast-moving items and money and time saving equipment from the country's leading manufacturers of dependable automotive products.

When you want more free information on any of these products, simply mark a circle around the same number on the postcard as appears under the item described. You may circle as many items as you wish. Use either or both cards. Separate information will be sent to you on each item. Be sure to give your full name and address.

New Literature

22. Aerial Catalog

Ward Products Corp.: An informative catalog illustrating this company's line of automotive aerals is now available. The information is prepared for the benefit of distributors, jobbers and dealers.

23. Thermostat Bulletin

Flexonics Corp.: The complete Flexon thermostat line is illustrated and described in a new 8-page bulletin published by the maker. The pamphlet offers facts on cooling systems from the causes of overheating to hints on the maintenance of the system. Charts are included that list the correct thermostat for either standard or high temperature ranges in most car, truck, tractor and engine models.

(Continued on next page)

Postcard valid for 90 days only.

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Frank P. Tighe, EDITOR MOTOR AGE
P. O. Box 76, Village Station, N. Y. 14, N. Y.

Please send me further information on the New Products, the code numbers of which I have circled below.

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Your Name.....Your Title.....
Your Company.....
Your Business: Wholesaler.....Repair Shop.....Car Dealer.....
Address.....(Street & No.).....(City).....(Zone).....(State)

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Your Name.....Your Title.....
Your Company.....
Your Business: Wholesaler.....Repair Shop.....Car Dealer.....
Address.....(Street & No.).....(City).....(Zone).....(State)

New Products

Continued from Page 69

24. Modernizing Pamphlet

Kawneer Co.: A Catalog entitled "How to Modernize Your Store Front for Greater Profits" is being offered by this company. The booklet emphasizes the importance of modernization in a market as competitive as the automotive field. This 2-color brochure, with numerous illustrations, points out the possibilities for the modernizing of dealerships.

25. Carburetor Manual

Champion Parts Rebuilders, Inc.: A complete aid to carburetor identification in the form of a 12-page manual has been prepared by this maker. The Carburetor Identification Guide illustrates and calls attention to the recognizable characteristics of most carburetor models in use today. In addition, the book lists a cross-reference table to Champion-manufactured units.

26. Sealed Beam Booklet

Automobile Manufacturers Assn.: A two-color booklet telling the story of the improved sealed beam has been published by the AMA. Fully illustrated, the booklet tells what the new light does; how to get best results with it; and the story behind the new light's development. Two pages are devoted to tracing the history of the headlight.

27. Fuel Tank Catalog

The Lintern Corp.: This manufacturer of safety fuel tanks and traction sanders has released a new catalog on these products. The new catalog devotes two pages each to the company's new step tank, the Cylsadd saddle tank, the crashproof cylinder tank and the traction air-operated sander. There are numerous illustrations and dimensions of these units given in chart form.

28. Spring Tension Booklet

Rinck-McIlwaine, Inc.: The booklet, "Valve Spring Tension Data," is said to contain valve spring information for all models of cars, trucks, engines and tractors manufactured in the past three years, and is a supplement to a previous booklet covering the ten preceding years. It is said to be a handy reference guide for establishing correct tension and proper balance in the valve springs of a variety of motor vehicles and engines.

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New York, N. Y.

29. Exhaust Systems

AP Parts Corp.: Manifold dual exhaust systems for 1952, '53, and '54 Ford V-8 and 1954 Mercury cars has been announced by this company. Exhaust system sets include a new left side rear outlet, cast iron manifold, a new left-side exhaust pipe, and parts kit. The manifold set does not include the muffler and tailpipe, according to AP.

▼30. Oil Supplement

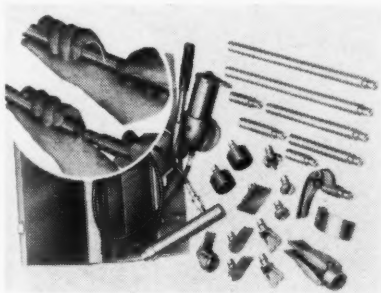
Moly Motor Prod's Corp.: Said to protect engines with an anti-



friction plating, Liqui-Moly continues to be featured by this maker. The product is claimed to reduce oil consumption by 56 per cent and gas by 17 per cent. Used by pouring into the crankcase, it contains no harmful ingredients.

▼31. Body Equipment

H. K. Porter, Inc.: The P-F speed midget body repair unit now features Ez-E-On attachments. A push and a twist and the new attachments make a connection instantly. It is detached just as easily, the maker



states. With Ez-E-On, hook-up time is said to be cut 70%.

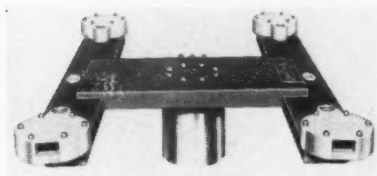
BIG TOP

Profit Makers



▼32. Car Lift

U. S. Air Compressor Co.: With the U. S. frame grip lift in raised position, the dead weight of the car is completely removed from the wheels, the company states. Safety pads on the lift are equipped with spring loaded pins which hold the car secure-



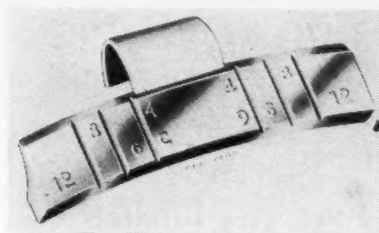
ly by extending around the frame members of the car. A set of extensions is furnished to handle cars without frames.

33. Special Tool

Xcelite, Inc.: A new tool to change Delco distributor points consists of a blue plastic screwdriver-type handle with standard 11/32 in. hex nut driver on one end and on the other, a hollow shaft end to fit the special circular slotted nut.

34. Wheel Weight

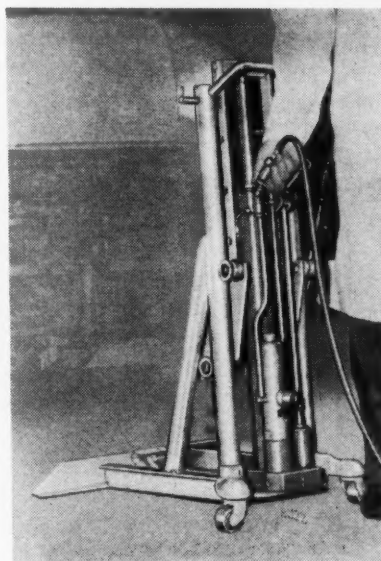
Bear Mfg. Co.: Now available is a special truck weight which will fit rolled flange wheels such as those on the new Chevrolet truck, the manufacturer states.



The C-9 Chevrolet truck weights are available in 4, 6, 8 and 12 ounce sizes.

▼35. Bumper Jack

Joyce-Cridland Co.: The "Bumper-Upper" jack is operated by hand or by air. The jack features a deep lifting throat with rotatable contacts that are said to have an adjustable spread. Contacts are lined with a rubber impregnated fabric to protect the car chrome. Easy handling is claimed because of two casters under the waist high handle.





BIG TOP

Profit Makers

►36. Tire Inflator

Barmotive Prod's Inc.: The Nelson 'Equamatic' tire inflator is used when mounting tubeless tires. A grip chuck is locked on the valve stem after the core has been removed, and the inflator dial is set at 50 lbs. Pressure forces the tire beads against rim flange for sealing.

▼37. Sandpaper

Behr-Manning Corp.: Two very fine grit, waterproof sandpapers have been introduced by the manufacturer. Developed for the wet sanding of lacquer finish coats these silicon carbide grain papers are additions to the company's Tufbak series. The new 500-A and 600-A grits of Tufbak are available in sheets.



38. Welding Machine

Mid-States Welder Mfg. Co.: The spot arc welding unit offered by this maker consists of the "Missing Link" with gas controls and timer, heavy duty magnetic contractor and remote control circuit. The unit can be attached to any AC welding machine of 300 amperes capacity. Missing Link will do spot arc, heliarc or metallic arc welding, it has been stated.

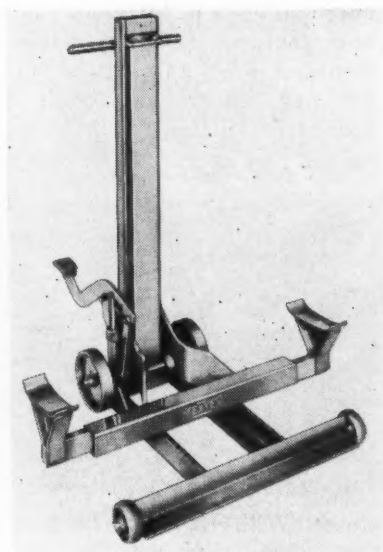
►39. Tire Repair Kit

Shaler Company: The "Hot Patch" tubeless tire repair kit is now available from this maker. This repair kit is said to base its value and marketabil-

ity on the premise that the safest method of repairing tires is by vulcanization. Each kit, according to the maker, contains one vulcanizer clamp, one tire buffing tool, and 10 tubeless tire "Hot Patches."

►40. Bumper Lift

Weaver Mfg. Co.: Here is a hydraulic bumper lift that is said to carry the vehicle load on a solid column of oil. It is equipped with a two-speed lever mechanism for foot power operation. Mounted on four wheels,



it is possible for the unit to be moved during the lifting of the vehicle. A safety release lever prevents accidental fast or dangerous lowering speeds, the maker reports.

41. Brake De-Bonder

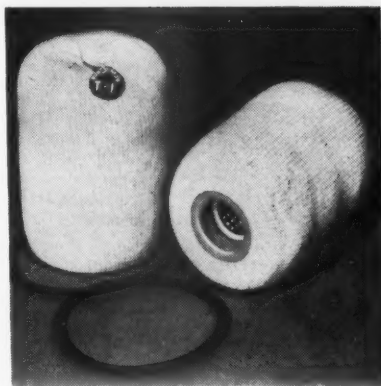
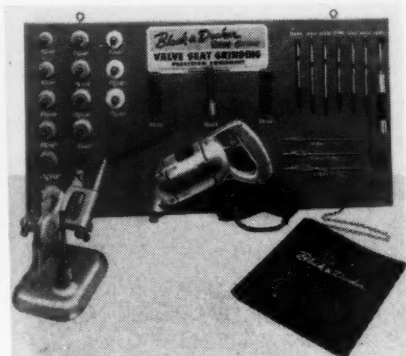
R. G. White Engineering Co.: A new "Budget-Size" brake shoe de-bonder and fume disposal unit that is claimed to remove up to 180 linings per hour without smoking or fuming, occupies about 7 x 3 feet of floor space and has a gas-fired de-bonding chamber. Heat penetrates only the linings, protecting the shoes against warping and annealing, the maker states.

Smoke and fumes are trapped in the fume disposal unit located directly over the de-bonding chamber, and are then discharged as odorless gas.



▼42. Equipment Board

Black & Decker Mfg. Co.: All the equipment needed to do a complete valve seat reconditioning and carbon removal job on most engines can be held on the Vibro-Centric board recently introduced, the maker claims. It can be mounted on the wall or stands by itself on any flat surface. The steel mounting board is available with three different assortments to meet the needs of shops whose requirements are varied, it is said.



▲43. Filter Elements

Purolator, Inc.: The new Pur-Pak fleet filter element, now available through this company, is made of lint-free cotton fibre. Made to fit most trucks and buses now in operation, the Purolator Pur-Pak elements will be put up in bulk. The most popular types are packed either with or without gaskets, according to the company.

44. Utility Mat

The Howard Zink Corp.: A new sponge rubber-based mat, made of plastic-coated fibre and measuring eighteen by fifty-four inches, is cushioned with a base of foam latex backing to

give it a non-skid "grip" wherever it is placed. The surface design, called "Tweed-Tex" by the company, is a woven pattern in any of three basic colors: Red, blue or green.

▲45. Wheel Balancers

John Bean Div.: The "On the Car" balancer is attached to the wheel without removing hub caps or trim rings, according to the maker. Four fast lock clamps lock the balancer to the rim. Selector controls indicate location and amount of weight needed for balancing. It is stated that the balancer may be purchased alone or as part of a complete aligning department which includes the balancer, spinner, vibration indicator, run-out gage and a wheel weight tool.

46. Bending Tool

Everhot Prod.'s Co.: The Everbend bending tool for shaping tail and exhaust pipes is aid to bend pipes to any shape quickly. Adjustable from a 1½-in. to a 2-in. diameter, the 2-lb. aluminum tool serves most cars and trucks.

(Continued on page 158)

Up-To-Date Body Parts Price List

1954 4-Door Models

Buick—Series 40

1163880—Front fender	\$45.00
4637393—Cowl & dash.....	64.50
4632489—Front door	61.50
4637773—Center body pillar.	29.75
4629838—Qtr. panel	21.75
4637608—Wheelhouse	26.50
4630817—Deck lid	57.50
4635741—Roof panel	57.50
4637369—Rear compt. front panel	10.00
4596147—Rear end panel..	6.00
4637752—Back w/w in. panel	10.95
4633836—Rear door	61.50

Cadillac

3509698—Left front fender..	73.50
4628768—Cowl assembly	75.50
4625709—Cowl side panel...	6.25
4625698—Roof panel	59.50
4629788—Center body pillar.	32.50
4624314—Deck lid	55.75
4625785—Inner rear w/w panel	8.75
4625775—Rear end panel....	8.00
4629722—Rear qtr. panel, outer	102.00
4627548—Rear qtr. inner side panel	3.95
4627071—Left rear fender...	55.25
3509714—Left wheel opening shield	12.00

Chevrolet

4638105—Cowl & dash assy.	100.00
4628339—Cowl side panel....	6.00
4595028—Cowl side rail.....	4.25
4596749—Front door outer panel	15.95
4643455—Right center body pillar	21.50
4191752—Rear door outer panel	15.50
4636859—Wheelhouse panel..	16.00
4191863—Right qtr. panel assy., outer	49.00
4191861—Right qtr. panel, outer panel only.....	21.80
4605847—Right qtr. panel in. side	4.00
4199992—Rear deck lid.....	42.50
4598567—Roof panel	50.70

Chrysler

1541004—8 cyl. front fender	57.50
1547364—Dash panel	15.75
1547252—Front door	59.00
1528006—Center body pillar	13.40
1547258—Rear door	59.00
1476678—Rear qtr. panel....	40.00

Chrysler—continued

1372493—Rear fender	16.50
1547387—6 cyl. deck lid.....	45.00
1526473—8 cyl. deck.....	44.00
1528066—4 dr. roof panel....	130.00
1547001—Wheelhouse assy...	16.00

DeSoto

1494665—Right front fender	44.95
1547364—Dash panel assy...	15.75
1521904—Front door shell...	73.00
1528006—Center body pillar.	13.50
1547258—Rear door shell....	59.00
1476666—Rear qtr. panel, right	39.75
1528024—Rear qtr. panel ext.	4.00
1528037—Deck opening, up- per panel	16.50
1528032—Deck lid	45.00
1547001—Wheelhouse panel..	15.75
1547392—Rear fender	16.50
1528039—Roof panel	129.70

Dodge

1541177—D52, 53, right front fender	35.45
1431296—Front door shell...	50.25
1476835—Front door repair panel	13.25
1528098—Center body pillar.	14.50
1476654—Right rear qtr. panel	52.75
1528179—Deck opening, up- per panel	11.25
1528033—Deck lid	43.00
1528028—Deck opening, lower panel	10.75
1528043—Roof panel	129.70
1528239—Rear door shell, R.	56.75
1547004—Right wheelhouse panel	16.00

Ford

BM-16005-C—Front fender ..	30.80
BM-7002010-A—Cowl top panel	27.00
BF-7001610-A—Dash panel assy.	23.18
BF-7320124-A—Front door assy., right	60.00
BF-7324300-A—Center body pillar, right	17.25
BF-7011135-A—Front floor panel	73.13
BM-7324630-C—Rear door ..	50.00
BA-7027882-A—Right wheel- house panel	7.15
BM-7040110-B—Deck lid	39.00
BA-7050200-A—Roof panel & silencer	58.65
BF-7326870-B—Rear qtr. panel	48.70

Ford—continued

BF-7040320-A—Lower back panel	9.00
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Hudson

A-240188—4 dr. right front fender	37.50
A-241163—Front end panel..	43.00
C-240400—Right side cowl panel	6.50
C-210298—Right front pillar	7.40
C-241660—Right front door..	46.50
C-213446—Center body pillar	11.00
C-241668—Right rear door assy.	44.15
C-240620—Right rear qtr. panel	9.50
C-240530—Rear deck right lower panel	2.25
C-240215—Rear deck lid.....	24.50
C-240645—Roof panel	71.35
A-240324—Rear fender	40.00

Kaiser

215873—Front fender	40.55
213211—Complete cowl	80.50
207658—Center body pillar..	15.25
207811—Front door	50.25
207662—Center body pillar..	10.00
207870—Rear door	50.20
214086—Right rear qtr. panel	21.50
207676—R.R. qtr. ext., outer	6.59
207678—R.R. qtr. ext., inner	6.08
213215—Deck lid	37.00

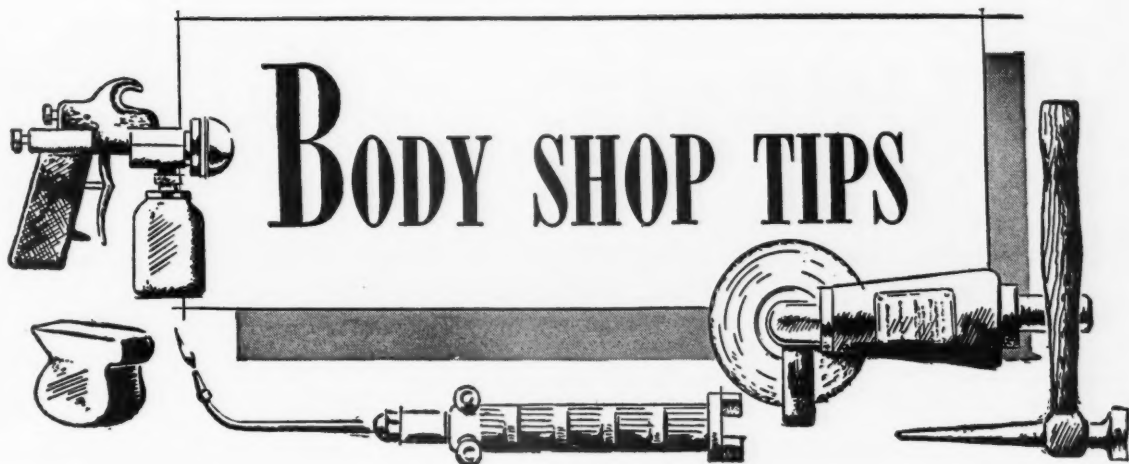
Lincoln

BS-16008-A—Front fender ..	60.35
BH-16611-B—Hood assy.	103.50
BS-7302010-A—Cowl top panel	53.00
BD-7302042-A—Cowl side panel & pillar.....	43.00
BH-7301610-A—Dash panel..	12.45
BS-7320122-A—Front door ..	88.75
BD-7324300-A—Center body pillar	21.66
BS-7324622-A—Rear door ...	41.25
BS-7311135-A—Front floor pan	109.50
BS-7311215-A—Rear floor pan assy.	35.50
BS-7340320-A—Lower deck open. panel	14.75
BD-7350202-A—Roof panel..	67.50

Mercury

BR-16008-A—Fender assy. ..	38.35
BR-16612-B—Hood assy.	75.50
BR-7002010-A—Cowl top panel	31.00

(Continued on page 112)



BODY SHOP TIPS

are worth

\$7.50

If you've developed an idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for \$7.50.

Reworks Striker Plate To Stop Door Rattles

I have found that if the serrations on the striker adjustment plate on GM car doors from 1949 to 1954 are worn off you cannot adjust or tighten the doors. Instead of cutting the door post apart and installing a new striker adjusting plate, I drill four 5/32 inch holes around the striker plate and anchor it with flat headed metal screws. First I locate the position of the striker plate to suit the proper closing and tightness of the door, then I mark it with a pencil and drill the four holes. Install the metal screws and anchor the plate tight. *Alex E. Burghart, Kossuth Motor Co., 108 S. Hall St., Algona, Iowa.*

Handy Tool Made to Fasten Weatherstrip

I have spent a lot of time trying different ways to fasten weather stripping on late model Chevrolets. I finally made a tool out of an old choke cable. The cable was cut and notched at the end with a file, then all you have to do is push the tool through the trim into the V of the clip and shove the clip into the hole. *Oria Shuck, R #1, South Haven, Michigan.*

Metal Screws Act As Agitators in Paint

In packaged paints settled pigment is often quite hard to stir and if it is not properly mixed into the vehicle the result will be an off-shade. To remedy this, I pour off most of the vehicle and drop two or three large metal screws into the can, re-cap and shake well. The screws will knock all the pigment from the can bottom. *W. P. Sonnenfelt, 205 E. State St., Marshalltown, Iowa.*

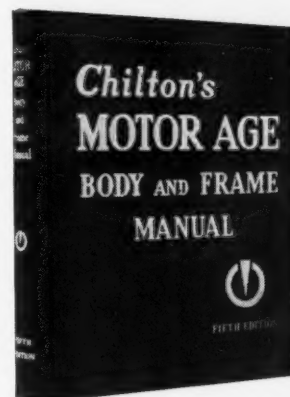
Method Found to Protect Shop Vise

If a vise must be used to punch out bushings or anything that requires the jaws of vise to be open while hammering, place a nut or piece of iron in one side of jaws

and tighten securely. Then you can pound on them with much less damage to vise. *A. C. Dowling, P.O. Box 14, El Prado, New Mexico.*

Easy Way Found to Remove Broken Studs

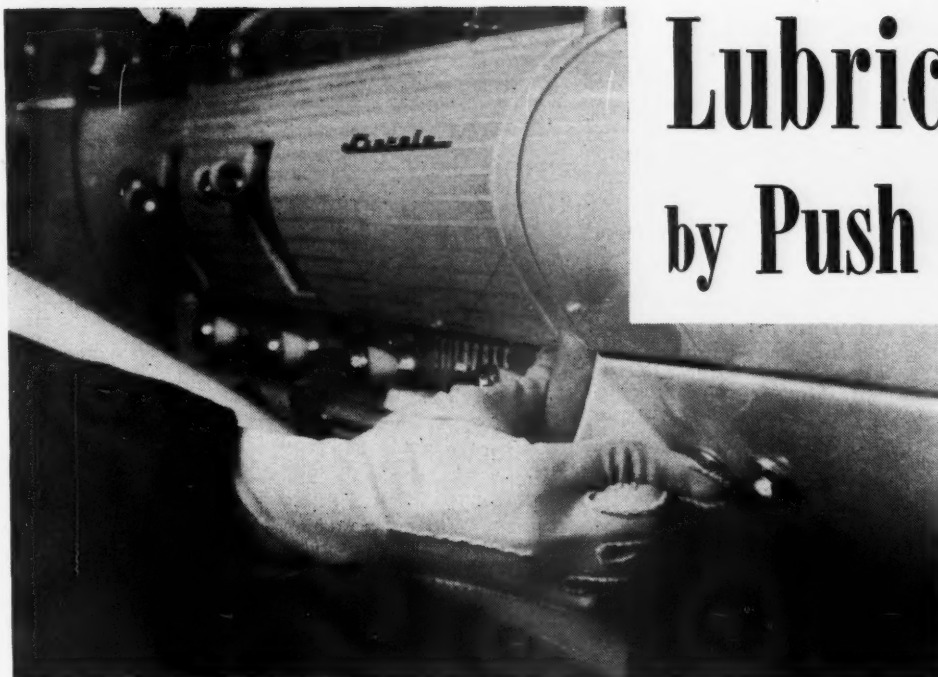
We have found a good way to remove broken studs that protrude above the surface. Heat around the base of the protruding stud end with a torch, then drive a six point socket over the end and turn out. Use a 7/16 inch socket on a 1/2 inch stud, 3/8 inch socket on 7/16 inch stud, and a 5/16 inch socket on a 3/8 inch stud. *N. P. Hale, 305 E. South St., Jackson, Mich.*



Other valuable information of the type presented each month in The BODY SHOP is available in Chilton's Motor Age Body and Frame Manual.

Current Engine and Tune-up Specifications

[illegible]



Lubrication by Push Button

on Lincoln and Mercury

**This new lube system is available
for installation on any make of car**

A POWERED lubrication system which lubricates the car by the mere press of a button is offered on 1955 Lincoln and Mercury cars and is available as an installation kit for other cars.

This accessory, known as Multi-Luber, provides constant lubrication of the chassis, suspension and steering systems. The system consists of a master cylinder located in the engine compartment from which nylon tubing extends to each front end chassis bearing. On the tip of each nylon tube is a coupling which fits over the regular grease fitting.

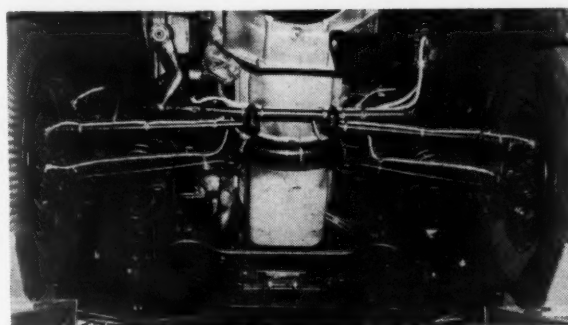
A plunger in the master cylinder pushes forward, forcing the required amount of light lubricating grease through each tube into the bearing. The vacuum power to force the plunger forward is activated by a control button on the instrument panel, thus enabling the driver to

(Continued on page 110)



Special lubricant is poured into the reservoir under the hood.

Nylon tubing leads to couplings which fit over regular grease fittings.



1954 New Passenger Car Registrations by Makes by States

STATE AND MONTH	Buick	Cadillac	Chevrolet	Chrysler	De Soto	Dodge	Ford	Hudson	Kaiser	Lincoln	Mercury	Nash	Oldsmobile	Packard	Plymouth	Pontiac	Studebaker	Willlys	Misc. Dom.	Foreign	Total
Alabama..... Oct.	678	66	2415	88	84	211	2751	40	5	33	281	59	458	25	304	366	87	11	18	7,980	
10 Mos.	4835	743	18831	734	485	1271	17386	210	46	262	2388	458	3275	221	3458	3095	566	101	5	58,235	
Arizona..... Oct.	241	43	394	18	12	55	560	10	1	17	82	35	132	30	88	70	21	13	9	1,811	
10 Mos.	1873	447	4780	343	238	526	5188	107	49	182	1057	381	1331	197	1440	882	375	150	1	19,626	
Arkansas..... Oct.	258	44	915	24	27	73	1179	21	3	13	111	13	238	9	126	162	51	4	2	3,272	
10 Mos.	2313	437	9414	368	303	818	9632	165	38	157	1407	219	2084	120	2590	1824	421	59	1	32,367	
California..... Oct.	3558	1318	7656	429	396	637	9777	153	142	3725	24453	6100	28921	2215	18291	17368	8317	1421	3	7384	
10 Mos.	35909	10912	76104	5185	4381	8065	85556	1618	1000	2	53	285	114	663	36	215	261	80	25	35	
Colorado..... Oct.	531	102	1398	103	57	151	1486	52	2	53	285	114	663	36	215	261	80	25	35	5,659	
10 Mos.	3345	789	9863	780	397	1219	9486	348	43	430	2221	698	3130	315	2141	2055	577	209	130	37,986	
Connecticut..... Oct.	746	158	1170	177	138	302	1710	74	7	54	363	204	647	97	379	375	118	15	96	6,828	
10 Mos.	6937	1618	15108	2003	1119	2880	17367	657	171	583	3633	1584	5590	728	6205	4926	1346	319	2	958	
Delaware..... Oct.	128	24	391	8	6	16	387	3	3	11	59	7	89	9	38	57	18	4	5	1,274	
10 Mos.	1221	292	4059	186	131	225	3833	45	11	142	683	96	999	77	838	828	212	39	1	59	
Dist. of Col. Oct.	160	40	431	41	26	50	418	17	4	18	60	23	211	13	143	103	17	2	25	1,802	
10 Mos.	1759	529	5152	483	343	574	4699	135	36	166	982	205	1656	204	2161	1519	286	44	144	21,077	
Florida..... Oct.	892	288	2192	163	140	230	2838	47	17	84	415	139	833	76	385	485	174	28	1	74	
10 Mos.	8916	2514	27240	1720	1281	2332	27180	497	256	1026	5376	1320	7382	800	6890	5618	2047	576	12	782	
Georgia..... Oct.	605	76	1658	45	59	159	2270	13	10	22	308	67	419	26	201	334	128	14	7	6,421	
10 Mos.	6781	1176	25368	995	660	2000	23904	232	168	411	4141	681	5000	396	5126	5585	1346	216	2	144	
Idaho..... Oct.	144	33	301	14	21	42	318	11	8	8	76	26	89	6	57	50	27	18	3	1,252	
10 Mos.	1730	346	3437	257	222	450	3217	173	44	139	1009	360	1282	93	921	856	434	178	40	15,168	
Illinois..... Oct.	3068	568	6002	427	319	600	6837	381	60	229	1333	514	2779	205	1083	1165	296	64	56	34,216	
10 Mos.	35288	7483	79608	6371	4422	8614	73825	3845	573	2392	16495	6509	27426	3044	22676	18403	5097	839	1529	499	
Indiana..... Oct.	1558	223	2233	165	165	399	3648	125	39	79	700	227	1121	82	456	645	387	40	20	12,313	
10 Mos.	14620	2629	35094	2411	2112	4110	35815	1188	294	803	5948	2422	10386	924	925	8410	4538	414	4	168	
Iowa..... Oct.	662	92	1751	73	68	206	2079	38	20	22	353	77	501	27	236	268	105	8	7	6,591	
10 Mos.	6940	1101	22019	1274	851	2336	22385	454	178	410	3903	1098	5566	334	4925	4371	1360	165	2	56	
Kansas..... Oct.	651	96	1407	58	65	186	1936	54	21	35	310	140	511	25	201	327	128	25	1	8	
10 Mos.	5981	1031	18135	991	740	1811	18243	553	256	395	3407	1325	4802	368	4318	3927	1307	192	1	80	
Kentucky..... Oct.	470	61	895	53	54	95	1345	16	4	29	220	58	342	23	126	221	95	5	5	4,117	
10 Mos.	4995	706	15903	651	539	1426	15988	178	74	221	2303	642	3563	281	3251	3332	1002	100	5	39	
Louisiana..... Oct.	466	78	1844	65	62	171	2107	9	17	27	247	53	493	37	184	251	150	7	6	2,652	
10 Mos.	4674	932	22134	850	633	1524	18454	109	115	294	2821	539	4088	368	4580	4161	1414	83	1	92	
Maine..... Oct.	149	25	386	24	41	61	406	14	4	8	80	45	112	9	93	85	45	10	4	1,601	
10 Mos.	1628	264	5170	330	367	734	4263	230	64	122	980	398	1061	141	1841	1368	503	147	2	69	
Maryland..... Oct.	582	101	1411	90	83	183	1803	34	14	46	235	97	407	43	397	233	95	23	27	5,904	
10 Mos.	6225	1013	18154	1275	966	2037	19259	426	150	428	3386	1036	4153	551	6495	4509	1292	308	1	266	
Massachusetts..... Oct.	1226	206	2527	184	210	398	2900	109	26	93	573	377	1119	93	646	751	198	38	2	108	
10 Mos.	11910	2263	29859	2459	2319	4053	31997	1207	254	922	6534	3593	11452	1291	11507	9581	2208	550	7	1021	
Michigan..... Oct.	2530	386	4534	240	251	410	7880	150	39	130	1177	353	2283	115	736	1249	235	48	35	22,781	
10 Mos.	34950	7787	70784	3845	3156	6128	88468	1578	363	2076	15138	4189	25036	2188	15509	19392	3044	565	7	333	
Minnesota..... Oct.	815	138	1551	95	93	146	2263	70	18	33	369	132	824	59	277	259	136	10	8	7,296	
10 Mos.	9058	1531	25072	1697	1384	2286	25351	726	224	521	4717	1436	8039	823	6379	4880	1831	292	2	101	
Mississippi..... Oct.	307	49	1344	35	40	121	1267	8	3	10	150	13	226	9	149	185	64	8	3	3,988	
10 Mos.	3110	519	12822	497	357	861	10748	94	29	142	1519	249	2113	86	2665	2228	494	87	15	38,625	
Missouri..... Oct.	991	166	2670	87	120	223	3369	38	27	46	610	132	984	64	531	506	174	28	1	10	
10 Mos.	9904	1995	33680	1624	1593	2574	32997	403	221	631	6217	1741	8873	775	9457	7304	1974	252	3	159	
Montana..... Oct.	168	39	491	30	20	69	426	33	12	12	65	31	176	26	86	47	37	10	2	1,760	
10 Mos.	1607	375	4443	337	229	673	4615	281	56	120	936	311	1586	232	1302	761	428	144	2	19	
Nebraska..... Oct.	375	61	892	51	25	89	1031	4	5	263	2391	495	3010	252	2835	2477	656	120	1	3,333	
10 Mos.	4273	701	11555	778	413	1129	12502	167	106	8	16	12	64	5	31	9	36	3	14	4,532	
Nevada..... Oct.	72	19	95	16	7	23	99	1	2	8	324	120	504	50	429	310	352	42	80	5,789	
10 Mos.	573	146	1030	149	106	208	1256	20	10	11	44	35	75	16	55	45	35	12	1	1,119	
New Hampshire..... Oct.	103	17	284	14	16	42	271	28	4	109	669	422	972	118	1331	1161	394	131	4	86	
10 Mos.	1178	204	3920	282	215	571	3241	294	45	115	1009	263	1585	214	809	1016	232	65	1	104	
New Jersey..... Oct.	1754	374	3160	334	306	512	4042	119	38	1349	12464	2779	12929	2034	14888	12862	3061	765	1	973	
10 Mos.	15789	4107	36385	5233	3295	5202	39589	1360	327	14	105	16	159	7	1150	1144	312	63	1	42	
New Mexico..... Oct.	211	36	440	34	17	39	501	14	1	177	1018	203	1419	388	2304	2078	597	151	1	375	
10 Mos.	1880	361	4587	393	196	509	4303	88	26	290	1942	740	4189	388	2304	2078	597	151	1	375	
New York..... Oct.	4598	941	8077	901	678	1446	8416	309	91	3164	22815	7036	33582	3697	36264	30573	6487	1802	271	2612	
10 Mos.	41303	9206	89793	11526	8632	14043	86757	2954	890	28	255	71	484	37	262	365	114	16	6	7,364	
North Carolina..... Oct.	679	127	1881	108	100	188	2827	30	9	359	3184	779	5152	471	5203	5190	1066	263	125	77,153	
10 Mos.	6576	1333	21053	1138	883	1899	20272	308	79	8	74	21	140	4	76	43	24	3	3	1,636	
North Dakota..... Oct.	124	24	500	29	33	58	458	8	4	91	800	286	1204	77	1387	693	244	28	1	14	
10 Mos.	1306	233	4656	321	291	499	4966	81	33	189	1204	333	2012	206	865	1318	286	64	1	50	
Ohio..... Oct.	2668	371	4284	310	349	723	6524	181	90	1840	14317	4147	20347	2506	17087	18839	4045	962	21	551	
10 Mos.	28742	5532	61284	4743	4381	8427	69204	1976	744	41	286	59	551	15	172	308	48	8	4	5,862	
Oklahoma..... Oct.	631	87	1601	37	59	1148	16967	238	4	429	3359	563	4892	241	3167	3414	851	79	73	59,852	
10 Mos.	5377	887	17098	630	34	41	96	1078	34	7	18	194	107</								



Your New Social Security

New changes made in our Social Security Law will benefit everyone concerned. This article explains the law's main features and how revisions may affect you and your family

by James E. O'Mara, District Manager
Social Security Administration

ON September 1, 1954, changes were made in the Social Security Law. These new amendments directly affect everyone who has a stake in the old-age and survivors insurance program.

In one way or another they touch practically every American family. With these amendments, Federal Old-Age and Survivors Insurance has become a weapon against family insecurity caused by old-age or death. The amendments extend protection to 9 out of 10 working Americans and their families; increased benefit payments to all present and future retired workers and most other beneficiaries; permits the computation of benefits on a more advantageous basis by permitting a worker to drop as many as 5 years of low or no earnings and increasing to \$4,200 the amount of annual earnings that can be counted towards benefits; they preserve the rights of totally disabled workers to any benefits they may have earned; and the retirement test has been liberalized to permit employed and self-employed beneficiaries under age 72 to have earnings up to \$1,200 in a year without loss of benefits.

As of January 1, 1955, an insured person 72

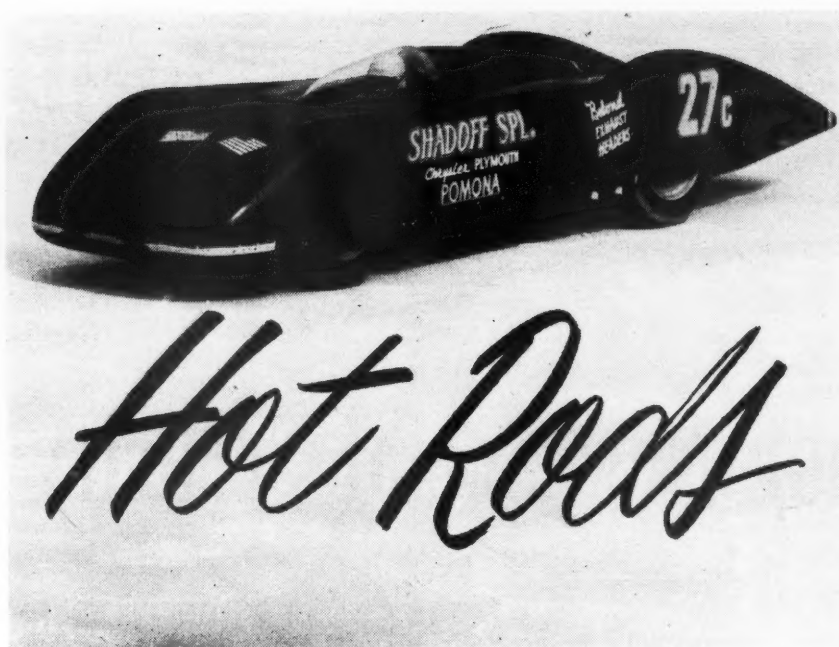
This Table Shows How to Estimate The Amount of Your Own and Your Family's Payments

Average Monthly Earnings After 1950	RETIREMENT BENEFITS		SURVIVORS BENEFITS			
	Retired Worker	Retired Worker and Wife	Aged Widow or Widower	Widow and 1 Child	Widow and 2 Children	Widow and 3 Children
\$50	\$30.00	\$45.00	\$30.00	\$45.00	\$50.00	\$50.00
100	55.00	82.50	41.30	82.50	82.50	82.50
150	68.50	102.80	51.40	102.80	120.00	120.00
200	78.50	117.80	58.90	117.80	157.00	160.00
250	88.50	132.80	66.40	132.80	177.00	200.00
300	98.50	147.80	73.90	147.80	197.00	200.00
350*	108.50	162.80	81.40	162.80	200.00	200.00

* Can apply only when there is at least 1½ years of earnings at the new maximum annual rate of \$4200 after 1954.

years of age or over is now able to receive benefits regardless of the amount he is earning. The term social security is synonymous with old-age and retirement. This limited concept has caused thousands of young widows with children months and even years of hardship and worry in too many cases. It is just the chance remark, or a last ditch search for funds, that brings a widow into the social security office to learn that she could have been receiving social security survivor's insurance benefits for herself and her

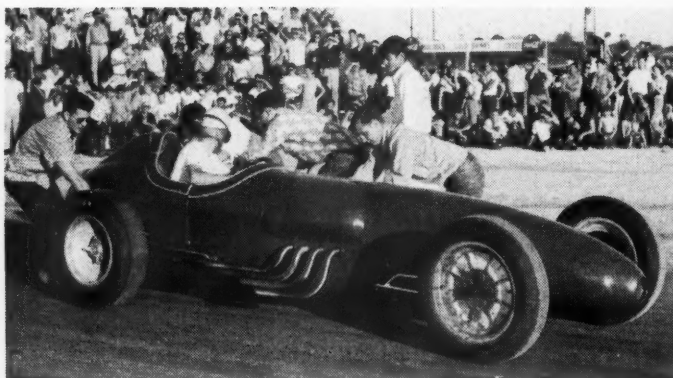
(Continued on page 144)



Hot Rods

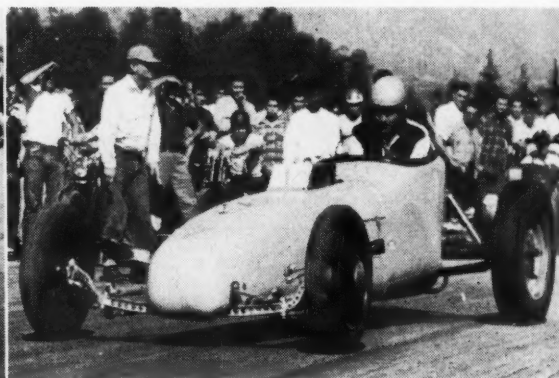
Have

by W. G. Brown

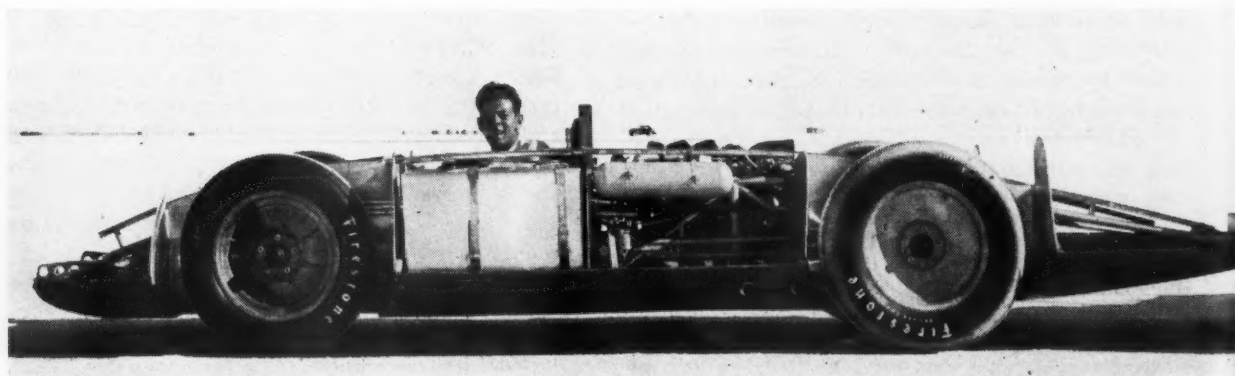


Above. Engine in this dragster is Chrysler V-8, located at the center of the car.

Below. View of the "Shadoff Special" with body removed shows water tank beside driver. This car set a one mile class "C" record of 236.36 mph.



Above. The "Bean Bandit." To date this car's fastest speed is 142 mph at the end of a standing quarter-mile. Power comes from a modified Mercury "L" head V-8. Fuel is usually 75% nitromethane, 25% methyl alcohol.



Many improvements in today's automobile might first have been seen on yesterday's "hot rod." These weird looking mixed-breeds or their strictly stock-looking powerhouse cousins prove the mechanical genius of America's youth

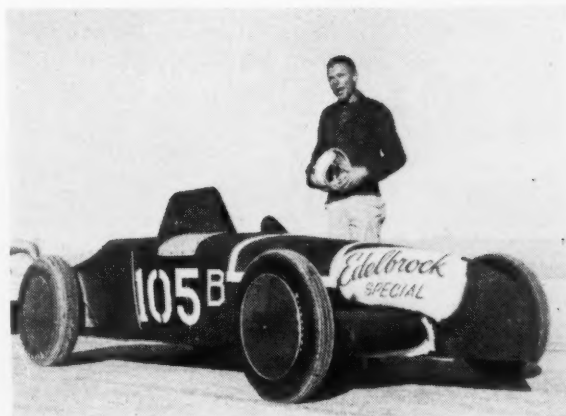
Come A Long Way—Fast

HOT rodders, their cars and their sport have come a long way in the past five years. They have learned the benefits of organization and cooperation with civic officials. They have learned now to make their cars safer yet faster. They have learned how to stage and control their own off-the-highway activities, complete with police assistance and unbelievable safety records. This knowledge has been gained the hard way.

The "classic" hot rods, the Model A and 1932 Ford roadsters powered by modified late model Ford and Mercury L-head engines, have all but vanished from the American highway. The modern hot rod is a late model car, usually a coupe or sedan in the low or medium price bracket, that is virtually undistinguishable from your next door neighbor's car. However, the resemblance ends under the hood. The engine compartment may contain one of a number of large displacement overhead valve power plants in standard or modified form, or the engine with which the car was originally equipped may be modified to produce almost twice its original horsepower.

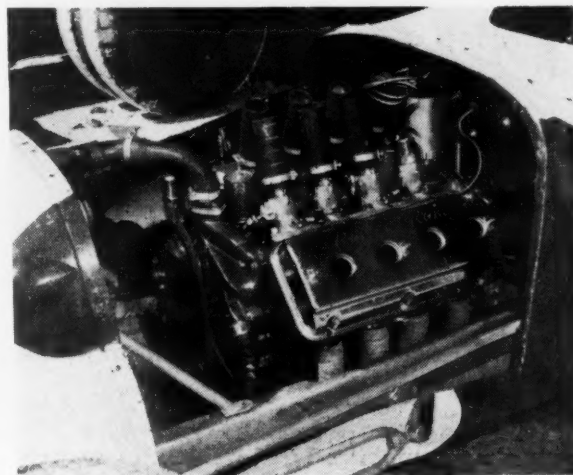
To the hot rodder, large piston displacement means additional torque and horsepower. Consequently, better acceleration and top speed is gained with less engine wear and tear, if the large engine is installed in a relatively light weight chassis. At times, their adage "anything will fit in anything" is severely challenged, but now it is commonplace to see Fords, Mercury's, Chevrolets and Oldsmobiles of varying vintage fitted with Chrysler, Cadillac, De Soto, GMC, Lincoln or Oldsmobile overhead valve

(Continued on page 116)



Above. Don Waite's rear-engined roadster uses Model "T" body. Tower above body houses "ram" tubes for the 257 cu in. DeSoto V-8 engine.

Modified Dodge "Red Ram" engine in a competition roadster uses standard bore, stroke, pistons, valves. Special equipment is fuel injection camshaft, tubular cam followers, magneto.



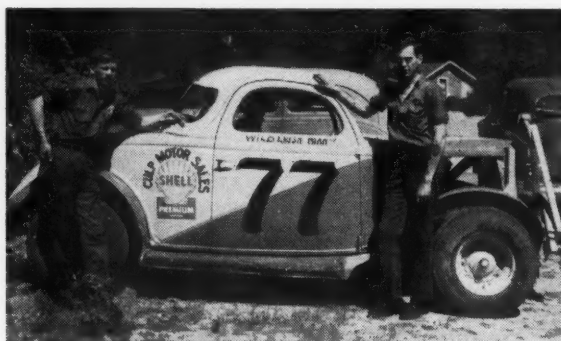
Good Merchandising



Ray Culp plays an important role in every phase of his business, from shop to showroom.



Advertising on the main highway helps to bring in tourists who might otherwise pass Culp by.



Sponsoring a stock car in the races helps to keep Culp's name before the public.

Ray Culp's Success Formula:

Hoosier Know-How and Hard Work

This dealer uses flexibility, good service and imagination to build a booming business, not only in automobiles but in sidelines as well

EVER since Ray Culp took on the Oldsmobile Dealership, in La Grange, Indiana, some 14 years ago, his policy of a standing guaranteed repair service, has paid off generously in annual increased car sales. This program has also increased service sales.

Even since the farming communities have
(Continued on page 142)

Past, present or future **STUDEBAKER** *stands for Good Profits and a Good Living*

Hundreds of Studebaker dealers have held their franchises more than 20 years. Many of our most successful Studebaker dealers came with us thirty, and even forty or more, years ago.

This continuity of good profits and a good living means much to old Studebaker dealers—and it's one reason why new Studebaker dealers are being signed every day. Consider, for instance:

Ralph E. Lewis Company 40 years a Studebaker Dealer in Jackson, Michigan



RALPH E. LEWIS



RALPH E. LEWIS, JR.

A Father and Son Team



Says Mr. Lewis Sr.: "It was a happy day when I became a Studebaker dealer. The company has been fair and friendly. A pleasure to do business with. The cars have been the kind I can be proud to sell to my friends. I have made good money and have enjoyed my business life."

Rictor Motor Sales and Service backed by 35 years automotive experience in the Erie, Pa. area



Says Mr. John Rictor, President: "The style, quality and value built into the current line of Studebaker cars make me confident that they can be sold in volume and at a profit. In taking this franchise I have also considered the fact that Studebaker factory policies have always been fair to the dealer. I look forward to a pleasant and profitable relationship with Studebaker."



JOHN RICTOR

STUDEBAKER

Studebaker Division of Studebaker-Packard Corporation...
world's 4th largest full-line producer of cars and trucks

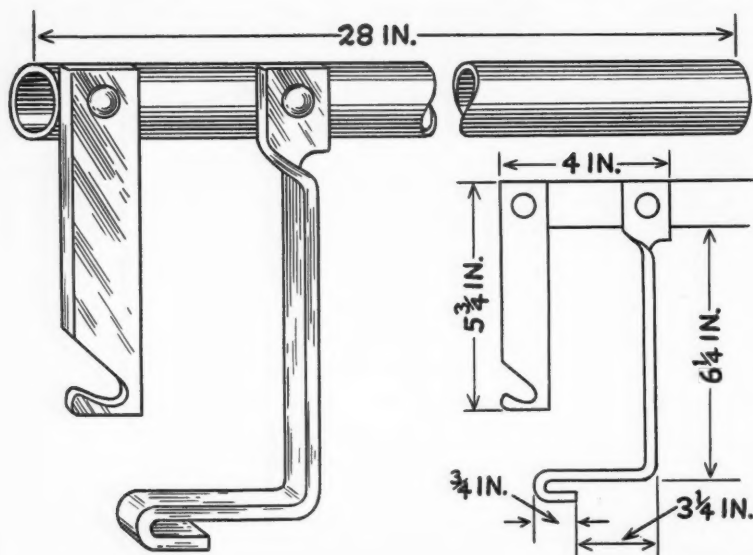
\$25 ShopKinks \$7.50

TIME AND WORK SAVING IDEAS ON CARS AND TRUCKS CAN PAY OFF. SEND YOURS IN NOW!

If you have an original idea for a special tool, a short cut on a job or any trick of value to others, write it down and if necessary make a rough sketch. Just make it clear. Send it to Motor Age. If your Kink is used it may bring you \$7.50 or \$25. All entries become the property of the Chilton Company. Because of the quantity of entries sent in, none can be returned.

\$25

Handy Tool Devised For Removing Hood Springs



On most cars, removing and replacing hinge springs is a major problem. To solve this we have made a tool for removing and installing hood hinges on any car from odds and ends found around the shop. We use a Buick rocker arm shaft and pieces of strap iron. We bend it as shown in the illustration, drill a few holes and assemble the various parts. **T. Marino, Marino's Auto Repair, 6406 E. 14th St., Oakland, Calif.**

Oil Can Helps Put Air Cleaner Back in Service

Occasionally a 1950 Buick comes into our shop with its air cleaner blown apart. The parts man ordinarily doesn't stock this item, so I've devised an emergency replacement. I cut the bottom and top out of a 5-quart oil can and soldered both ends of the can into place on the cleaner. The oil can is the same size as the part it replaces. **Michael J. Ondechek, 1312 Romine Ave., McKeesport, Penna.**

Temporary Repair for a Leaky Wheel Cylinder

Occasionally a wheel cylinder will go bad where there is no place available to get repairs. I've found an ordinary pencil eraser very helpful in solving this problem. I cut a 1/4 inch piece from the eraser and insert it under the fitting at the brake flange, or at the branch-in line leading to the bad cylinder. I have used this repair on automobiles and heavily loaded trucks. **Chester Miles, Miles Auto Parts, Clarks Summit, Pa.**

Old Tire Used as Inner Tube Tester

A very cheap and indestructible inner tube testing tank can be made from an old truck tire. Cut tire in half and trim bead off, nail to a plank or trim bottom flat. It can be made to any design. The larger the tire the better the tank. **R. Taube, 6514 3rd Ave., Kenosha, Wis.**

(Continued on page 86)



Install the leader*...

Perfect Circle 2-in-1 chrome piston rings!

Survey after survey proves Perfect Circles are preferred by more people than any other ring!

To the Doctor of Motors this means:

1. LESS SALES RESISTANCE
2. MORE RING INSTALLATIONS
3. MORE PROFIT

*because... Perfect Circle's 2-in-1 Chrome piston ring set has *both* the top ring and the oil ring plated with thick, solid chrome. Entire area of ring travel gets *complete* wear protection more than doubling engine life. Customers are assured thousands of *extra* satisfying, economical miles of sustained power and positive oil control. No tedious break-in as rings are lapped-in at factory. Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ont.

Perfect Circle

2 in 1 chrome piston rings

The Standard of Comparison

Spark Plug Gasket Takes Play from Shift Linkage

To take wear out of the bottom shift lever on the steering column, take a one inch spark plug washer and flatten it with a hammer. Cut it and slip it on to the bottom of the shift lever. File one side of cap until cap fits. *Walter Czapl, Hudson Street Garage, 278 Hudson St., Hartford, Conn.*

Shock Bushings Remove Spark Plugs

To remove spark plugs from deep well engines like V-8 Chryslers, we install two Plymouth shock bushings in a deep 13 inch socket. On bushing number one we remove all of the flange, on the second bushing remove only about one-half of the flange. Then force these into the socket and ream hole in bushing just enough so plug will pull out easily. *H. R. Moist, 212 4th St., Huntingdon, Pa.*

Economical Driver Made From Retainer and Yoke

Here is a homemade tool that can save a mechanic money and time. A driver for the rear transmission seal and bushing of Fords and Mercurys from 1949 to later models, can be made by welding a rear axle bearing retainer on a front drive shaft yoke. *Joseph E. Young, 1187 S. Shoshone, Denver 23, Colo.*

Tool Simplifies Removal Of Hydro-Matic Bearings

We have made a tool that simplifies the removal of rear hydro-matic transmission bearings. We took a



six inch flat blade screw driver and ground two grooves near the end at an angle and opposite each other. Procedure for removal of bearing is to slide tool between inner and

outer race and pull up. *David L. Tompkins & G. B. Greer, Old City Motors, 283 San Marco Ave., St. Augustine, Fla.*

Bad Muffler Installation Can Endanger Brake Lines

When replacing mufflers and tail pipes on Chevrolets, I noticed that if the exhaust pipe is cut off too far ahead of the muffler or if a short piece has been broken off the pipe, the new muffler and pipe could be assembled too far to the front. This causes the part of the tail pipe, which is supposed to clear the rear axle, to rub against the rear axle housing when the rear springs are flexed. On some Chevrolets the hydraulic brake line is assembled to the rear axle housing at this point and this hydraulic line can either be flattened or worn through. Proper installation may save a life. *Clarence L. Riedy, 2612 Berkley St., Flint 4, Michigan.*

Old Tubing Makes Good Tool for Removing Axles

An easy way to remove a broken axle shaft is to locate an old tail pipe, steering tube, or similar tubing that will just fit over the broken shaft. Put a crimp or two in the tubing, drive on to shaft, and it comes out easily. *L. I. Moser, Alamaance Service Station, Rt. 10, Box 139, Greensboro, N. C.*

Compound Checks Slipping Of Phillips Screwdriver

It is often difficult to loosen Phillips door hinge bolts because of the tool slipping out of contact. To prevent this slipping prime the contact point of a screwdriver (or wrench) with valve grinding compound. *Valdeko Essau, Jack's Auto Body, 2430 Boston Rd., New York City, N. Y.*

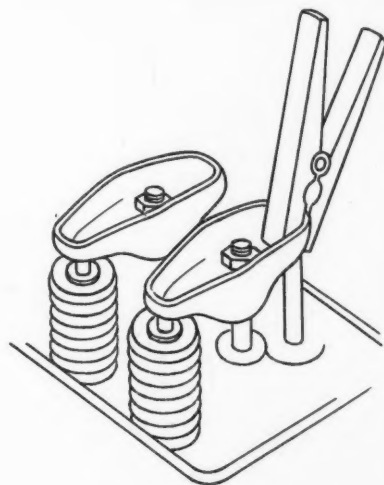
Permanent Cure For Low Oil Pressure

I have a shop kink which increases the oil pressure at idling

speeds and in many cases reduces oil consumption on Studebaker Champions. First, I remove the transmission or engine, then the flywheel. Behind the flywheel there are two pipe plugs, I remove the top plug. I then insert a small bottle cork or dowel peg far enough into the passage way so it passes the line coming up from the main bearing. This shuts off the oil to the lifters, but they get enough oil from the connecting rod splash to keep them from making a noise. Using the above method on the last job I got oil pressure from 5 to 7 lbs. at idling speed and 40 lbs. at 30 mph. *Wilbur W. Curry, C.B.S. Automotive Supply, Inc., 401 S. Main St., Celina, Ohio.*

Helpful Trick When Adjusting Valves

I've found a way to prevent oil spray when adjusting valves on the 1955 Chevrolet V-8 engine that has solid valve lifters. I take eight



wooden snap clothes pins, clip them on the rocker arm over the spit hole above the push rod, as illustrated. *Ramon Tarasek, Serv. Mgr., Teeter Chev., Inc., Lowville, New York.*

Cardboard Prevents Chuck From Scratching Surface

To prevent the drill chuck from hitting bottom and scratching the surface, when drilling a hole, slip a scrap of corrugated board over the bit. *E. A. Stowell, Boscobel, Wis.*

Now! Schrader Standard Tire Valves for Tubeless Tire Service



#4337K3
CLAMP-IN TYPE VALVE

*makes service easy
in the field*

As 1955 cars equipped with Tubeless Tires build-up mileage, your tire replacement, mounting and repair jobs will include some Tubeless Tire service work including Valve mounting and replacements.

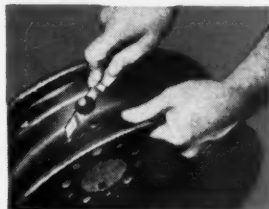
These two new Standard Schrader Valves quickly and easily make an airtight attachment to passenger car rims... provide the same time-tested inflating gauging and valve operating principle that has supported the tire pressures on all vehicles since the first automobile.

Both the Clamp-in and the Rubber Covered Snap-in designs are used on original equipment for 1955 cars—you'll need them for your replacement work.



#54
RUBBER
COVERED
VALVE

Easy to Install



Remove old Snap-in Valve by cutting off the rubber base area.



Mount Snap-in Type Valves with the Schrader #8104 Valve Fishing Tool.

#4337K3 Clamp-in Replacement Valve—Fits all passenger car wheels equipped with tubeless tires. Special large rubber washers packed with each valve to permit attachment to rims with round or oval shaped rim holes.

#54 Rubber Covered Snap-in Valve—forms an airtight seal in $\frac{3}{8}$ " round rim holes in passenger car wheels. Easily installed when lubricated with water and pulled into position with a regular Schrader #8104 Valve Fishing Tool.

Bring your tire service up to date!
Order these and other quality
Schrader Products from your supplier.

#54 packed
10 valves
to a box



#4337K3 packed
5 envelope sets
to a box

Schrader

REG. U. S. PAT. OFF.

FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

8997

Following are prices at factory for cars with standard equipment as of December 24, 1954. State or local taxes, transportation and finance charges and optional equipment are extra.

■ **1955 Models.**

choose the...

"3-way combination"
that grows with your needs!

Snap-on

TRIPLE UNIT
TOOL CABINET



BIG, SIX DRAWER
TOOL CHEST



TWO DRAWER
SECTION



EASY MOVING
ROLL CAB



Any way you look at it, you're out ahead when you choose your tool chest from this Snap-on "handsome threesome"! You can start with one unit, or any combination of units, that fits your present needs. You can add a unit as your tool equipment grows... and *know* that it will fit right and *be right*!

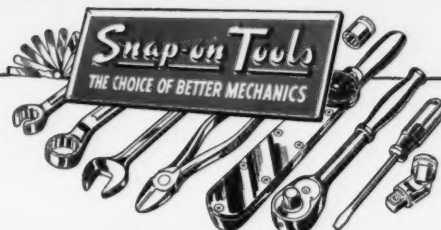
Built of electrically welded heavy gauge steel with reinforced tops and tube-type corners to withstand toughest service through the years ahead. Drawers are easy gliding slide run—can't sag, bind or pull out and spill tools. High grade tumbler type locks protect your tool investment.

Let your Snap-on Man show you the superior features and construction of this triple unit cabinet. The big 104-page Snap-on catalog includes a wide range of chests, Mechanikits, Coaster Cabs and Rolla-Benches. Ask your Snap-on Man for your copy, or write,



SNAP-ON TOOLS CORPORATION

8036-A 28th Avenue, Kenosha, Wisconsin



*Snap-on is the trademark of Snap-on Tools Corporation.

Parking lights are set extreme outboard and wrap around the sides of the car.

Packard models also utilize a vertical curved side pillar at the windshield to enhance the sweep-around front glass area. The front of the rear fenders are trimmed to give the appearance of an air opening and the lower portion of trim in-

corporates an exterior courtesy light for passengers entering or alighting from the car.

The all-new frontal look on Clipper models gains added distinction from headlights hooded by long fender forms. A lower and wider grille highlights a Packard identification in a chrome header bar. This bar then wraps around the

side of the fenders to become chrome treatment for the sides of the cars.

The valve in head Packard V-8 engine for 1955 is a basic engine featuring high torque, large displacement—the only way to achieve high torque at middle range speeds—and what is said to be exceptionally low friction and high thermal efficiency.

The 1955 product will have a 12-volt electrical system to meet the requirements of electrical load as well as ignition.

Cylinder spacing has been made deliberately greater than necessary for the initial bore sizes. This affords greater flexibility in meeting future requirements by way of increased bore sizes.

Noteworthy, too, is the interchangeability of major parts among the three engines. At the present writing, the cylinder heads, con rods, camshaft, con rod and camshaft bearings, and valve train are the same.

Cylinder heads are interchangeable, with a compression ratio of 8.5 to 1, and large diameter side-by-side valves. The spark plugs are located in a large boss within the chamber. The plug is of new design, featuring long reach, i.e., the electrodes project directly into the highly compressed mixture area.

An important feature of head design is the elimination of removable valve guides, the valves operating in bores of the parent casting. Heat transfer is improved to such extent that valve operating temperatures are said to be reduced by more than 200 F at the valve head, by more than 100 F at the stem. This reduction in heat rejection, together with large gains in thermal efficiency has reduced cooling system requirements by 15 per cent, compared with 1954 models.

Maximum valve lift, both intake and exhaust, is 0.373 in., the combination of high valve lift and special design of the induction system making for high volumetric efficiency.

Neoprene valve spring seat seals are fitted on both valves to control the volume of oil for lubricating valve stems, preventing excessive

(Continued on page 94)



HOW By installing Johnson Adjustable Tappets, made expressly for 1932-53 Ford and Mercury V-8's.

WHEN Every time an engine needs a valve job, he recommends installation of Johnson Adjustable Tappets at the same time. As you easily see — he does ONE JOB, but MAKES TWO PROFITS. (Of course, Johnson Adjustable Tappets can be installed at any other time.)

WHY He realizes the huge possible replacement market for Johnson Adjustable Tappets — over 100,000,000 Tappets, and he is getting his share. He knows, too, how easily Johnson Adjustable Tappets are installed without expensive shop equipment.

WHERE He makes money right in his own shop — buys his Johnson Adjustable Tappets from his nearest jobber. So can you.

"Tappets are our business"

JOHNSON  PRODUCTS

INC.

MUSKEGON, MICHIGAN

HOW SUN'S ONE-GRADE POLICY

(Premium-Quality Gas at regular price)

WORKS FOR MOTORISTS



WE SAVE ON TANKS



WE SAVE ON TRUCKS



WE SAVE ON PUMPS

SUN OIL COMPANY produces only one grade of gasoline — New High-Test Blue Sunoco. This single-grade policy results in savings on storage tanks, trucks, pumps and other facilities. These savings are invested in research and new, improved refining processes to give motorists New Blue Sunoco — High-Test, Premium Quality gasoline at regular gas price.

How it works for Sunoco Dealers

Because Sunoco dealers offer customers more for their gasoline dollar with only one gasoline, Sunoco dealers get more customers. In fact, Sunoco dealers, on the average, pump twice as much gasoline as competitive dealers. With more traffic, dealers have more opportunities to profit from oil, lubes, TBA. And with only one gasoline, station operation is easier.

Like to Become a Sunoco Dealer?

A Sunoco dealership may be available in your territory. Call our local office or write us direct: Sun Oil Company, Philadelphia 3, Pa.



SUN OIL COMPANY • Philadelphia 3, Pa.

To **SELL**

where the selling is **EASIEST**

SELL to the **PRE-SOLD** market

SELL

MORaine
ENGINE BEARINGS

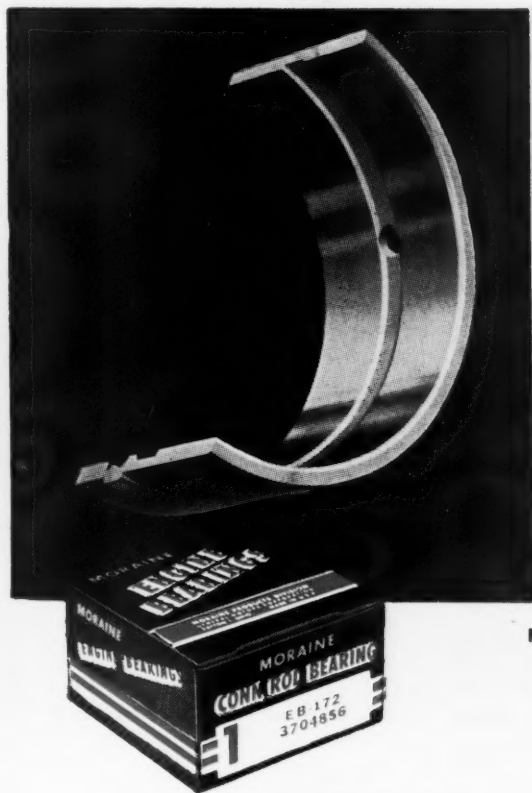
A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

Moraine engine bearings are original equipment on more new cars than any other make—are pre-sold to half the cars and trucks that pass your door.



Moraine engine bearings are attractively packaged, easily identified on your shelves.

Here's a market you don't have to sell! Moraine engine bearings have already been sold to half the motorists you serve—in their new cars. For Moraine bearings are original equipment on more cars, including all General Motors cars and trucks, than any other make.

Leading Moraine's original equipment line is the tough M-100 (Durex) engine bearing. Especially developed for high-performance, high-compression engines, the M-100 is built by an exclusive process giving it greater durability and longer life under extreme stresses.

All Moraine engine bearings—the M-100 and the conventional steel-backed babbitt-type bearings—are built to the uniform high standards and tolerances required by original equipment manufacturers . . . are built by the world's largest manufacturer of original equipment engine bearings! For 1955 United Motors offers a complete line, with bearings to fit all cars. Moraine bearings are available everywhere through United Motors distributors.

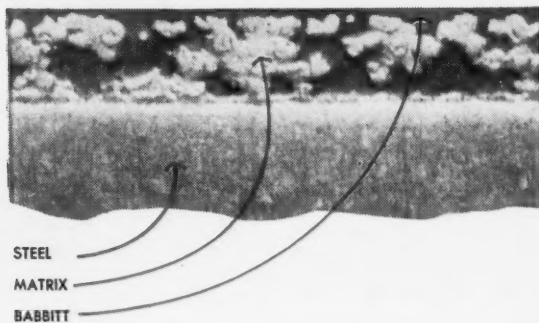


Photo-Micrograph of Cross Section of M-100 Bearing, Magnified 33 Times

THE MATRIX MAKES THE DIFFERENCE

Steel-backed intermediate matrix, of porous copper-nickel, bonds mechanically, as well as metallurgically, with thin high-lead babbitt overlay.

The exclusive Moraine matrix (or middle layer) between the babbitt and the steel back makes the M-100 8 Ways Better!

- 1 Greater resistance to fatigue
- 2 Increased load capacity
- 3 Greater conformability
- 4 Greater embedability
- 5 Stronger bond
- 6 Greater resistance to scoring
- 7 Greater resistance to corrosion
- 8 More durability



1955 Packard V-8 Engines Condensed Mechanical Specifications

Model	Clipper Super and De Luxe	Custom Line	Packard
Bore (in.)	3 13/16	4	4
Stroke (in.)	3 1/2	3 1/2	3 1/2
Displacement (cu. in.)	320	352	352
Compression Ratio	8 to 1	8.5 to 1	8.5 to 1
Bhp (max.)	225 @ 4600 rpm	245 @ 4600 rpm	260 @ 4600 rpm
Torque (lb. ft.) max.	325 @ 2400-2800 rpm	355 @ 2400-2800 rpm	355 @ 2400-2800 rpm
No. Main Bearings		Five	
Ratio-Bhp/cu. in.	0.703	0.696	0.739
Ratio-Torque/cu. in.	1.015	1.008	

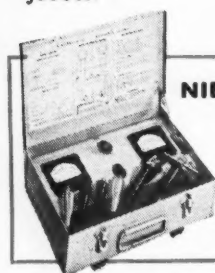
NOW! SERVICE ALL POPULAR MAKES!

with the NIEHOFF UNK-6 VOLTAGE
REGULATOR KIT!



NIEHOFF UNK-6 REGULATOR KIT

Puts you in a position to get highly profitable voltage regulator business with but a small investment. You need but one kit to service popular makes. Do it easy, do it right. Specifications on cartons. Ask your jobber.



NIEHOFF T-14 Voltage Regulator Tester

Voltage regulator testing made quick and sure. It's compact, portable, always handy and ready for all makes and models of cars.

FORD
CHEVROLET
PLYMOUTH
OTHERS

C.E. NIEHOFF & CO.
4925 W. Lawrence Ave.
Chicago, Illinois

WAREHOUSES: NEW YORK 19, N. Y., 250 W. 54th Street
PHILADELPHIA, PA., 1631 Fairmont Ave. • BOSTON 34, MASS., 254 Brighton Avenue
BRANCHES: LOS ANGELES 15, CALIF., 1330 W. Olympic Blvd.

Packard . . .

Continued from Page 90

oil from entering valve ports.

The valve train consists of the chain driven camshaft, stub type hydraulic valve lifters, light weight tubular push rods, rocker arms, and a rocker shaft on each head. Cam lobes are so shaped as to give the longest period of dwell for valve opening, and quiet ramps for valve opening and closing.

Pistons are of aluminum alloy, with cam-ground slipper skirts, and provided with steel struts to control expansion. Three piston rings are used above the wrist pin, two compression rings and one special type oil ring. The upper ring is chromium-plated.

During warm-up exhaust heat from the left bank exhaust manifold is routed through a heat cross-over passage in the intake manifold to heat riser passages surrounding the vertical carburetor risers. A thermostatically controlled butterfly valve at the outlet adapter of the left bank manifold controls exhaust heat admitted to the heat riser.

On Clipper Super and Deluxe, and the Custom line, a single exhaust system is located on the right side of the frame side rail. A cross-over tube under the front end of the engine connects the left bank with the common exhaust pipe on the right side. Packard, on the other hand, has a dual exhaust system comprising individual exhaust pipe, muffler, resonator, and tail pipe on each bank.

Full pressure lubrication is supplied to all vital moving parts, the oil supply being carried in an oil pan of five-qt capacity. Lubrication is from a gear type oil pump driven by the distributor shaft gear. Lubricant cleanness is protected by an externally-mounted by-pass type oil filter, standard on Packard, extra cost on other models.

A special rotor vane vacuum pump is located on the lower end of the oil pump, driven by the oil pump shaft. A diaphragm type fuel pump is located at the right forward end, mounted on the tim-

(Continued on page 96)



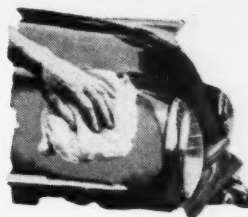
Steel Wool



Masking Paper



Abrasives



Tack Cloths

"Holds in any weather"



Jack Beisse
Loeber Pontiac, Inc.
Chicago, Illinois



PERMACEL[®] TAPE

AND REFINISHING SUPPLIES

a *Johnson & Johnson* company

ing chain cover, driven from the eccentric at the forward end of the camshaft.

A new system of full torsion bar suspension has been introduced by Packard for its Custom Line and Packard cars. Billed as the "Levelizer" suspension, it employs two full length torsion bars, one on each side parallel to the frame

side rail. Both front and rear wheel ends are connected to the same bar, the distinctive feature being that while front wheels are sprung independently the rear suspension retains the standard rear axle. This is in contrast to European practice and prevailing ideas as to the need for a swinging rear axle construction.

The second basic new ingredient is the Levelizer feature. As will be shown later, the suspension incorporates auxiliary mechanism that automatically maintains the loaded height to close limits and level of the vehicle front to rear regardless of changes in passenger loading.

Before going into a description of the elements of the mechanism, it may be of interest to outline some of the special claims made by Packard, as follows:

1. It provides a flat ride with greatly reduced pitch, rarely bottoming.

2. The car remains level front to rear at all times. For the first time this makes possible level headlamp aiming on the highway.

3. While providing a soft ride, the system is said to have excellent stability at high speeds, and splendid cornering control.

4. No rear end squat on acceleration; less pitch at rear under severe brake application.

5. Better wheel traction on acceleration due to automatic added loading on the rear wheels.

6. Torsional stresses resulting from spring action isolated from the frame.

With these claims in mind, let us consider some of the basic details of the system. First of all, the main spring action is taken by the two 9-ft long torsion bars, running generally along the frame side rails. At the front end the suspension details remain about the same as before, except for some changes in the outer vertical support pivot bearings. The front end of the main torsion bar has a lever pointing outward, connected by an anti-friction link to the front suspension lower support.

At the rear end, the lever on the end of the torsion bar points inwardly, and is connected to the rear axle torque arm by means of an anti-friction link.

Attachment of the torsion bars to the frame is accomplished by pivoting the front end lever on anti-friction bearings mounted on the frame front cross member; pivoting the rear end lever on anti-friction bearings in a bracket on the frame side rail at the rear. It is important to note that unlike other

(Continued on page 98)

TUBELESS TIRE CHANGING made SAFER and EASIER with



RUGLYDE®

THE ONLY LUBRICANT
THAT MEETS ALL REQUIREMENTS
FOR TUBELESS TIRES

**WARNING: Ordinary Mounting Methods
Can Damage Tubeless Tires.**

Tubeless tires require specialized mounting and demounting methods different from conventional tires and tubes. Do you know why tubeless tires should not be mounted dry—and do you know why it's positively necessary to guard against damaging the rim-seal ridges and bead toes when mounting and demounting—and do you also know that certain lubricants soften rim finishes, and that others cause rim rust and corrosion?

BE SAFE! BE SURE! Use the RuGLYDE Service Kit and RuGLYDE the only 100% safe and effective lubricant for tubeless tires. RuGLYDE meets all industry standards . . . Protects the vital air seal of tubeless tires. Makes both mounting and demounting safe and easy. Applied to the toe of the bead and rim-seal ridges, RuGLYDE makes bead seating easy, even on safety rims. Prevents scuffing or tearing tire bead toes or rim-seal ridges when using either tire changing machines or hand tools . . . safeguards against bead slippage after inflation. Will not induce rust or harm paint finishes. RuGLYDE is the only rubber lubricant recommended by leading tire and car manufacturers for use on tubeless tires.



RuGLYDE is the registered trade-mark of
AMERICAN GREASE STICK CO.
MUSKEGON, MICHIGAN

RuGLYDE SERVICE KIT

a MUST for Tubeless Tires

This life-time Kit includes a special RuGLYDE brush to clean rim-seal ridges of tubeless tires, and a special applicator for lubricating the sealing ridges and base of beads before mounting and demounting. Ask your supplier about the big discount introductory offer on the RuGLYDE Service Kit.

Free New Folder tells how RuGLYDE and Service Kit can make tubeless tire servicing safer and easier. Write AGS Company for your free copy today.

**"It's NO PROBLEM to
INCREASE Your PROFITS
with a HOLMES WRECKER"**



New PLATFORM TYPE SERVICE BODY

The new Service body shown with Holmes 525 Wrecker was designed to improve service for those who handle a wide variety of jobs. This model has low side panels, heavy flooring and is wide enough for front end of a car to be pulled up into the body for towing. Built with heavy side rails, tool compartments and flush openings for wrecker controls. Ideal for medium and Heavy Duty Wreckers.

HOLMES 650 Model

The 650 Model makes it easy to sell service, for with this Heavy Duty unit a shop can handle most pick-up and recovery jobs. It has power and capacity for large trucks and busses yet is fast and flexible enough for light cars. Boom capacity is 10 tons, pulling capacity 20 tons. Send for detailed information.



Manufactured by

ERNEST HOLMES COMPANY - Chattanooga, Tenn.

torsion bar suspensions this one does not anchor the bar to the frame at any point.

As a result, any upward movement of a wheel at either end of the main torsion bar spring will increase the torsional deflection of the bar and thus increase the load on both wheels simultaneously. Downward movement of either

wheel reduces the load on both wheels. Front and rear wheels on each side of the vehicle thus receive their main loads from the action of the same spring.


To transmit the forward thrust of the rear axle to the frame, the system employs two driving torque arms, one on each side. They are attached to the frame at the for-

ward end by means of rubber bushings; at the rear axle housing by means of insulated rubber mounts. This allows free vertical movement of the axle, transmits a minimum of noise or shock to the frame.

Load from the torsion springs is applied to the rear axle through the rear torque arms. The swinging ends of the torsion bar rear levers are attached to the center of the torque arms by means of links with anti-friction bearings.

The arrangement of torque arms plays an important role in this suspension. Due to reverse torque on the axle housing during rapid acceleration, the torque arms tend to raise the rear end of the car, thereby preventing rear end squat.

Transverse movement of the rear axle, on the other hand, is controlled by two transverse stabilizers, so designed as to permit true vertical movement of the body as well as to insulate lateral wheel shocks from the frame.



MECHANIC FOR SALE

**NEVER SICK—NEVER ON VACATION
ONE MONTH'S SALARY AND
HE'S YOURS FOR LIFE...**

YOU GET ALL THIS AND MORE with an



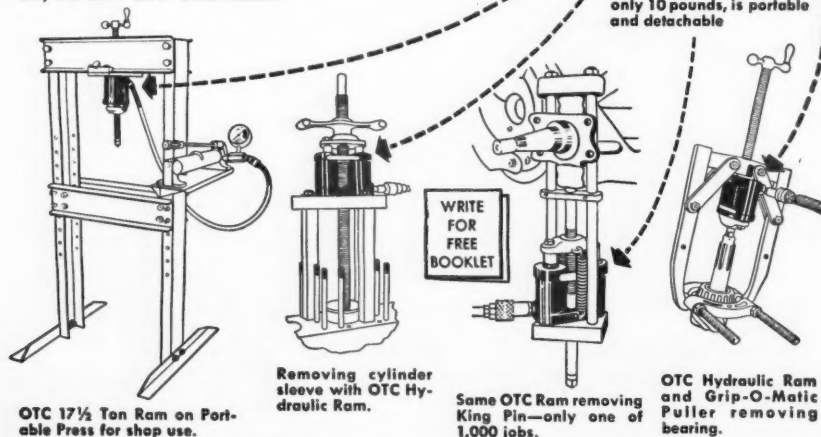
HYDRAULIC PULLING SET



For a small amount—less than a month's salary—you can have a complete set of OTC Hydraulic Pulling Tools. It will do more than a man's work every day for life.

The famous Power-Twin Center Hole Ram may be used on a press or as a portable unit to push, pull, straighten, bend, press, spread—to pull or install bearings, sleeves, outer races, gears, pulleys, shafts, bushings, etc.

The 17½ Ton unit may be adapted to your present OTC pulling tools. Also available in 30, 50 and 100 Ton sizes.



OTC 17½ Ton Ram on Portable Press for shop use.

Removing cylinder sleeve with OTC Hydraulic Ram.

Same OTC Ram removing King Pin—only one of 1,000 jobs.

OTC Hydraulic Ram and Grip-O-Matic Puller removing bearing.

WRITE FOR FREE BOOKLET

OWATONNA TOOL COMPANY
321 CEDAR STREET • OWATONNA, MINNESOTA



*Morley Burtstein
E.S.*

"I know you're a temperance woman and strictly against alcohol, but I do think you should get some ANTI-FREEZE, regardless."

The car levelizer or load compensator comprises two additional half-length torsion bars, a two-way actuator motor, gear box, control switch, and associated levers and links. The compensator bars each have a lever at the front end, pointing downward, connected by a link to a centrally located actuator lever and gear box. At the rear they are fitted into each of the torsion

(Continued on page 102)

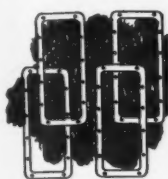
Electronic Baked Cork

MEANS BETTER SEALING

WITH Armstrong-Victor GASKETS

It was bound to come with the electronic age—this exclusive Armstrong-Victor cork curing process. It's the biggest improvement in cork gaskets in half a century. Now A-V cork is cured thoroughly, evenly, in minutes instead of the hours it takes with steam—and with much lower heat. Now A-V's process stops loss of sealing efficiency by over-baking or under-baking—steam's greatest weakness in curing cork.

A-V Gaskets Have Uniform Density



Electronic baking heats the cork composition from inside out. Each cork granule gets the same heat under equal compression. This produces a uniformity of density impossible with steam curing.

A-V Gaskets Have Greater Strength

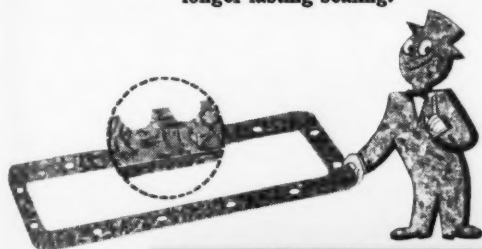


The uniformity of electronic baking . . . at lower heat under controlled time and temperature cycle . . . increases the tensile strength of cork composition. This means A-V gaskets can take shop handling easier with added safety against damage.

A-V Gaskets Have Livelier Sealing Power!

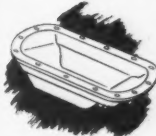


Lower temperature, uniform heat electronic curing precisely controlled, retains more natural liveliness of cork. This gives A-V gaskets a wider, more uniform compression and recovery range for longer lasting sealing.



Only genuine Armstrong-Victor Replacement Cork Gaskets have this trade-mark—the 2 notches.

A-V Gaskets Never Fail to Fit

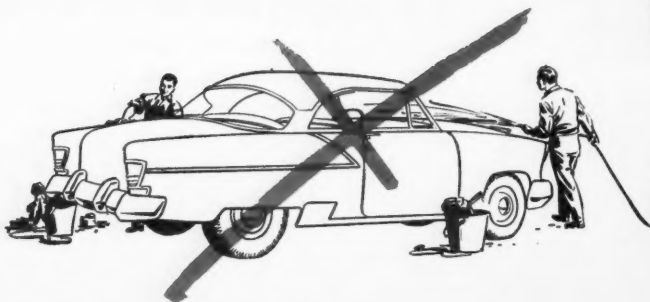


They're die-cut sharp and clean to exact dimension. All holes are round . . . sides straight . . . all openings accurately shaped. A-V methods and tools are the best in the business.

YOUR VICTOR WHOLESALER carries complete factory-fresh stocks—for every make and model—in this familiar package. Sold in sets or individual parts. Victor Mfg. & Gasket Co., P.O. Box 1333, Chicago 90, Ill.

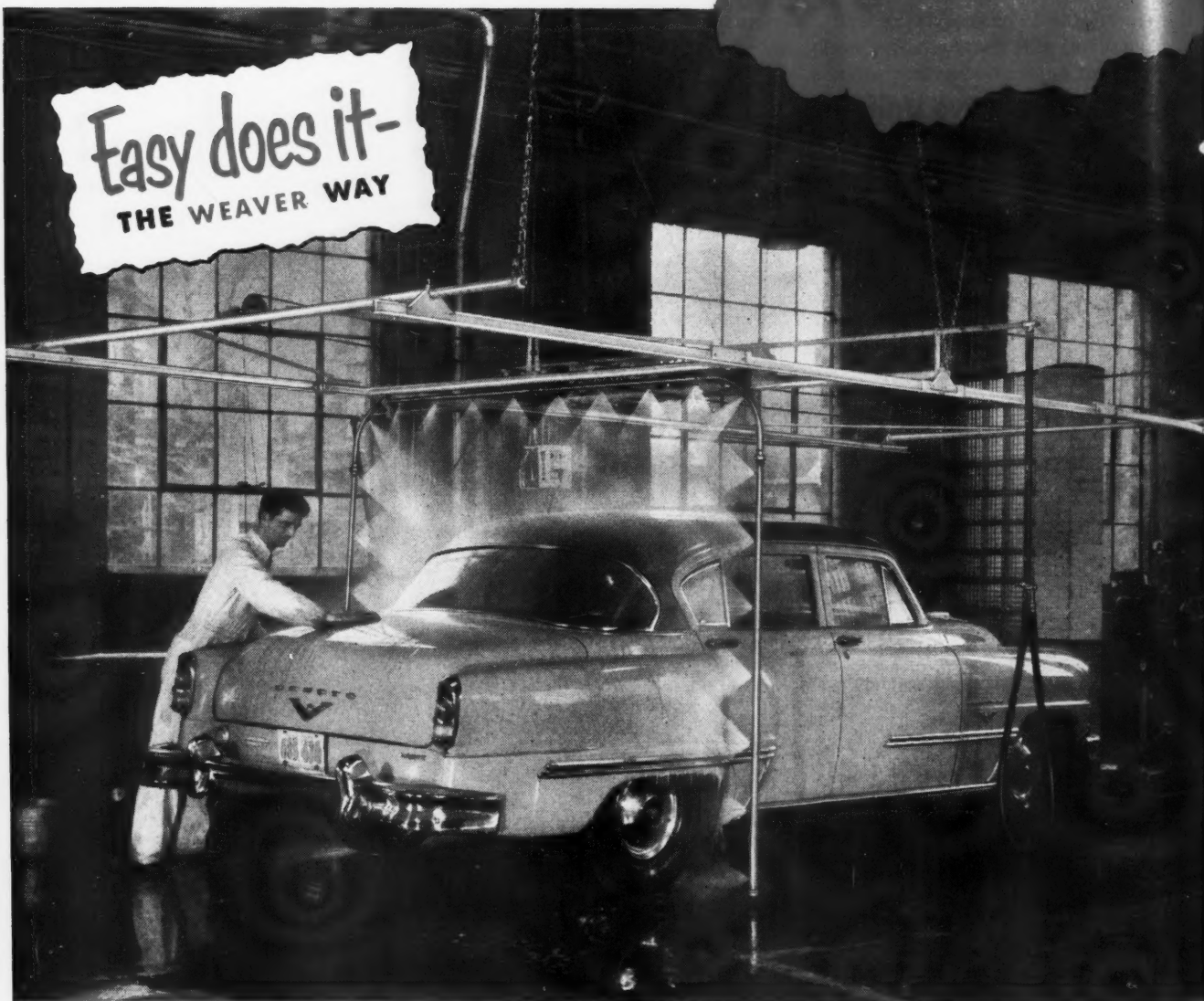


Armstrong-Victor



DOUBLE

**Easy does it-
THE WEAVER WAY**



Clip and mail coupon for details

**WEAVER MANUFACTURING COMPANY,
Springfield, Illinois**

Please send full details on profit-producing
Car Washer. I understand there is no obligation.

Name _____
Firm Name _____
Address _____
City _____ State _____

WEAVER

your car washing profits!

WEAVER AUTOMATIC OVERHEAD CAR WASHER

cuts washing time in half -- with no increase in personnel

In contrast with the old-fashioned slow method of bucket, sponge and hose — one man using a Weaver Automatic Car Washer can turn out three or more complete wash jobs per hour.

The records speak for themselves. A car dealer on the Pacific Coast reports that his Weaver Car Washer enables his one operator to wash a car complete in less than 17 minutes... In Washington, a service station, using a Weaver Car Washer, washed 68 cars in one day — and also sold 840 gallons of gas to those 68 customers.

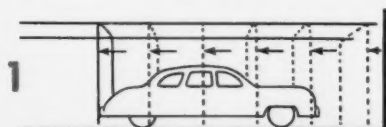
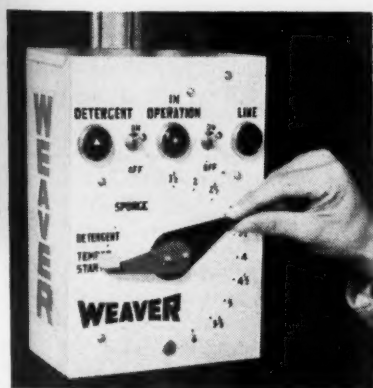
The time-saving, profit-producing results that others are getting — YOU can get... The Weaver Car Washer per-

fectly meshes manual duties with automatic operations. On one press of a button, the Washer's exclusive "Spray Arch" delivers a tempering stroke, detergent application, stops for sponging interval, proceeds with 4 clear water rinses, and automatically shuts off. The unit is easily adaptable to man-power available. It can be shut off at any stage of cycle and started again from same point.

Overhead suspension of Washer frees floor of all obstructions. Special, splash-proof water delivery eliminates need for boots, aprons, special floor drains, large inlet pipes, storage tanks, splash walls or curtains. Economically priced at only \$825.00 complete.

SEE YOUR WEAVER JOBBER TODAY OR WRITE US FOR BULLETIN MA-710

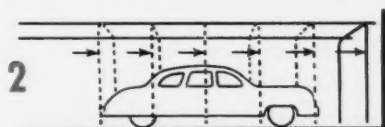
"PUSH BUTTON" OPERATION SPEEDS WASHING



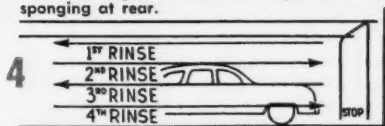
TEMPERING CYCLE. On press of button, "Spray Arch" automatically starts and moves length of car spraying it with clear water while front wheels are hand washed.



SPONGING CYCLE. To permit completion of manual sponging, the machine stops at end of "Detergent Cycle" for an adjustable interval which is pre-set to suit manpower available.



DETERGENT CYCLE. At end of "Tempering Cycle" the "Spray Arch" automatically reverses direction, sprays car with "Weaver-Gloss" Detergent and water as operator starts sponging at rear.



RINSING CYCLE. After "Sponging Cycle," unit automatically starts, delivers 4 clear water rinses, and automatically shuts off.

WEAVER MANUFACTURING COMPANY, SPRINGFIELD, ILL., U.S.A.

SERVICE SHOP EQUIPMENT

Complete Weaver line includes: Twin Post Lifts... Single Post Frame Type Lifts... Unit Lifts... Bumper Lift... Car Washers... Wheel Alignment Equipment... Headlight Testers... Brake Testers... Wheel Balancing Equipment... Jacks... Wheel Dollies... and Air Compressors.

arms near the point where the arms are attached to the main torsion bar. Function of the compensator is to adjust compensator torsion bar loading in accordance with load changes in the car, the loading being increased or decreased by action of the motor.

Heart of the control system is the control switch which controls the

action of the two-way motor. The switch is connected, by means of a link, to a lever attached to the left main bar. In normal operation, with relatively equal loading front and rear, the center section of the long spring has substantially little movement, since equal twisting forces are applied at each end. However, if the loading at the rear

is increased, the center section of the main spring will tend to deflect correspondingly. This will rotate the switch lever, cause the switch to make contact and operate the actuator motor, and thus will increase the loading on the compensator bars. Since these bars are so arranged as to raise the rear end under such conditions, they will level the rear end with the front.

On the other hand, if the loading on the rear is decreased, as would occur when passengers leave the car, the center section of the load spring deflects in the opposite direction. This contrary movement, when sensed by the actuator switch, will cause the actuator motor to run in reverse rotation, thus decreasing the loading on the compensator bars. Obviously, in this instance, the compensator bars tend to lower the rear end so as to level it with the front.

It may be appreciated that if the compensator mechanism were too sensitive, it would be affected by momentary variations in loading due to the action of severe road bumps or brake applications. To compensate for such transient effects, the switch has a 6-second delayed action to cancel the effect of road bumps; and the motor circuit is arranged to be broken by a two-way stop light switch, to prevent compensator operation when brakes are applied. A safety switch or limit switch is also incorporated in the control circuit to automatically stop the motor after it has lifted its rated capacity. The limit switch also prevents damage when the car is lifted by the bumpers.



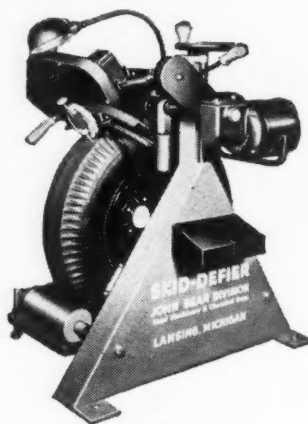
OVER 400 TIRE JOBS IN ONE WINTER— in a town of 1000!

In Frankfort, a town of 1000 in Northern Michigan, the gas station and new car dealership operated by the Nickson Brothers deskiddered over 400 tires during the first winter they had a John Bean Skid-Defier. Fred Nickson is shown putting his Skid-Defier into operation on another "profitable service job."

GO FOR MORE PROFITS . . .

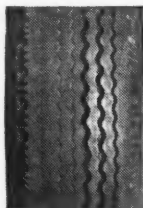
with a *John* **BEAN** **SKID-DEFIER**

A rugged, easy-to-operate unit that will pay for itself in a short period, the Skid-Defier cuts circumferential or cross slits and mud or snow cleats automatically. It will earn you the same new profits that it is currently earning for operators all over the country. Ask your John Bean Jobber or mail the coupon today for full information.



HERE'S A NEW FEATURE

New patterned groover attachment will cut two sizes of zig-zag grooves in worn tread. Can be purchased as an attachment for any Skid-Defier made since 1947, or can be purchased as a complete unit. Ideal for adding sales appeal to worn tires.



JOHN BEAN DIVISION, LANSING 4, MICH.

- ☐ Please arrange a Free Demonstration for me.
- ☐ Please send me information on the John Bean SKID-DEFIER.

NAME _____

ADDRESS _____

CITY _____ STATE _____

JOHN BEAN DIVISION *fmc* Food Machinery and Chemical Corp. LANSING 4, MICHIGAN

WHEEL ALIGNERS • WHEEL BALANCERS
TIRE DE-SKIDERS • STEAM CLEANERS
CAR WASHERS • HEADLIGHT TESTERS
ACCESSORIES AND ALLIED TOOLS



THE Profit Reporter

Read these actual statements from men like yourself—automotive service men who cash in on the public's preference for WEED TIRE CHAINS.



Ohio • "I'm asking my jobber to check my Weed Chain stock, and ship me extra supplies in the popular sizes. We'll always be ready when our customers holler for tire chains!"

Art Janson

17229 Euclid Avenue, Cleveland, Ohio

Iowa • "I'm talking Weed Chains to every gas or service customer—and hitting a pretty good average on sales."



Russell McDonald

301 Fifth Street, West Des Moines, Iowa



Massachusetts • "Four out of five years, tire chains are a big-profit item for us. Judging by the past two years, this one's going to be a beaut. We're ready—with ample stocks of Weed Chains."

Jack McGarry

261 Cambridge Street, Boston, Mass.

Minnesota • "Some dealers I know let their tire chain stocks run out this time of year—but not me. We'll carry a full range of Weed Chains as long as there's snow—and sell a lot every time it snows. And if we carry some over the summer—well, that's money in the bank next Fall!"

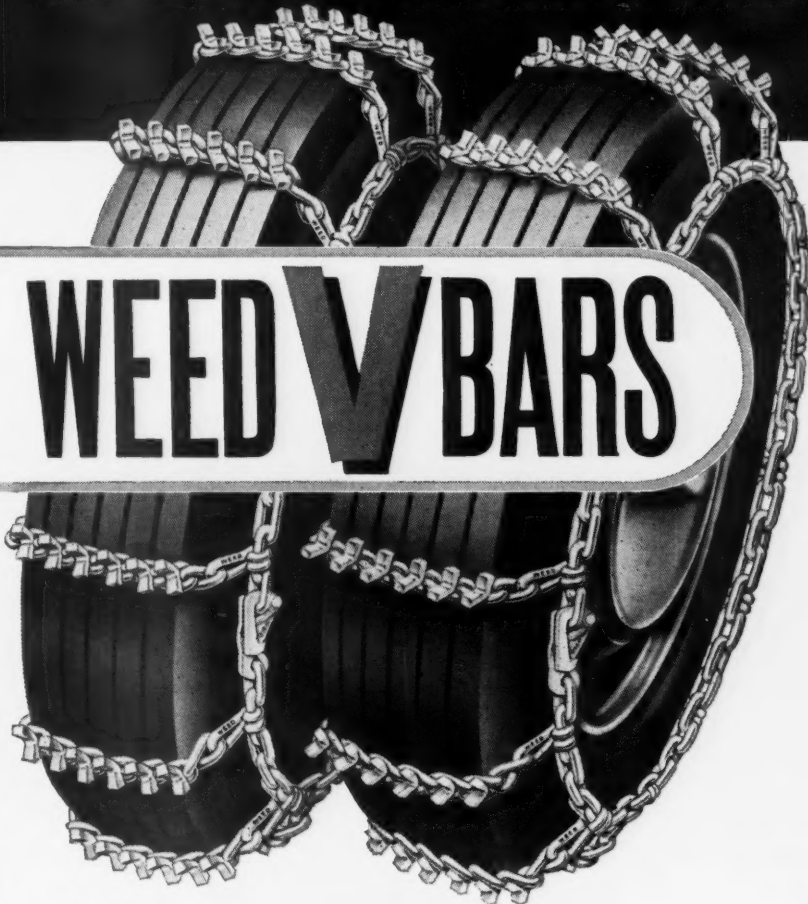
Fred Smith

700 Fifth Avenue South, Minneapolis, Minn.



Flaring Reinforcements with Right-Left Construction
GIVE DOUBLE GRIP and REDUCE SIDE-SKID

WEED V BARS



How to Double your Fall Change-Over Profits

Anti-freeze, winter-grade oil . . . and WEED Tire Chains.

That combination makes money for you. So be sure you're ready . . . with plenty of WEED Tire Chains. Then you can sell chains with anti-freeze . . . and double your Fall change-over profits!

You'll sell WEED CHAINS with pride, because WEED V-Bars are the finest ever made. At least 288 flaring steel points dig into snow and ice. They stop shorter, start quicker, hold straighter, wear longer. And Zip-On Appliers make them easier to put on.

Your customers will thank you for recommending WEED CHAINS and Zip-On Appliers. So get your order in to your jobber . . . soon!

American Chain & Cable Company, Inc., York, Pa., and Bridgeport, Conn. In Canada: Dominion Chain Company, Ltd., Niagara Falls, Ont.

ACCO



In Business for Your Safety

WEED TIRE CHAINS • 1904-1954

Intentionally Better for 50 Years

Organization Continued from Page 59

just what everybody is supposed to be doing, and periodic reports will tell him if they are actually being done. Attention to details becomes necessary only if reports show that results are not being produced; and in such instances, he checks with those reporting directly to him, suggests and guides as necessary or, when someone responsible for the work of a given department has clearly shown inability to get proper results, finds a replacement who can. The General Manager who tries to personally check every parts shipments received, supervise each repair job and audit every statement placed in the mail (a few things so-called GM's have been observed trying to do) is inviting ulcers and inevitably neglecting the real "management" work he ought to be performing.

One most important manage-

ment job is the subject of this discussion—the development of clear-cut instructions as to how the business is supposed to operate; who is supposed to do what, how much authority is delegated to help get the job done, and such other details of good organization as are necessary to provide hope for a smooth, economical operation.

Maybe you think your business is too small to require the formality of manualized instructions. Even a one-man repair shop operator will improve his chances of success if he takes the time to prepare clear statements of how he is going to try to run that business. For him, and for the larger enterprise where the need for a documented operating pattern may not be questioned, these are some of the benefits of manualization:

1. **Completeness**—Leads to def-

inite recognition of all the things that have to be done if the business is to be operated properly.

2. **Clarity**—Assures understanding by employees, present or future, of lines of reporting and such other details as must be understood before anyone can be expected to properly handle his job.

3. **Definiteness**—Eliminates the "twilight zones" which lead to duplication, neglect and buck passing.

4. **Reminder**—Supplies an authentic record of decisions on all subjects which might involve questions as to correct handling, so they need not be "hashed over" more than once.

A generally satisfactory form for manuals is mimeographed, multilithed or similarly reproduced material, on 8½" x 11" sheets, three-hole punched for insertion in loose-leaf binders. In larger organizations, an impressive printed volume may be justified.

(Continued on page 106)

Coming your way!

**NEW
PRODUCT!**

WATCH FOR THE
TOLEDO STEEL

NEW PRODUCT ANNOUNCEMENT

Coming Soon!

TOLEDO STEEL



Joseph H. Snyder, President of the Color Corporation of America, tells:

"How we set a record with the Thunderbird!"

"When news got out about the Thunderbird, Ford dealers scheduled a big preview at Palm Springs, California," relates Joe Snyder of Color Corporation of America.

"But as the date drew near, it became clear to Ford that the one Thunderbird then in existence—a hand-made model—would have to stay there in Detroit!

"The solution? Giant natural color prints—and Air Express.

"Films were rushed to the Color Corporation in Tampa,

and we made Hi-Fidelity color prints *larger than the top of a desk*. These were back in Detroit in record time—and in Palm Springs the day after!

"There is no other service comparable to Air Express. We would be just a local business without it.

"Yet Air Express rates are usually lowest of all. For instance, a 10-lb. shipment from Tampa to Detroit costs \$5.06. That's 68¢ less than the next lowest-priced air service."



Air Express



GETS THERE FIRST via U.S. Scheduled Airlines

CALL AIR EXPRESS . . . division of RAILWAY EXPRESS AGENCY

most powerful 1/2" drive



The 404 is the lightest, most compact tool in its power and capacity class. Reduces arm fatigue regardless of working position. Actually does all work which previously required two or more tools. Handles all but the largest nuts and bolts on cars and trucks. Fits into small space for extra close-quarter work. Converts immediately into a screw driver, tapper, reamer, wood borer, etc., with standard attachments.

Now, even more than before, mechanics are getting more work done, easier and are making more money by using Ingersoll-Rand Impacttools—the leaders in both AIR and ELECTRIC. For an on-the-job demonstration of the new 404 or any of Ingersoll-Rand's complete line of air and electric Impacttools for every job, call your Ingersoll-Rand jobber today.

18A-151

Ingersoll-Rand

11 Broadway, New York 4, N.Y.



AIR COMPRESSORS



AIR



IMPACTTOOLS ELECTRIC



IMPACTCUTTERS



TIRE TOOLS



AIR STARTING MOTORS

Originators of Impacttools

AIR & ELECTRIC

Organization . . .

Continued from Page 104

fied. While "dolling up" will not alter the basic merit of the material presented, it is generally true that anything receives about as much attention as its character seems to anticipate.

The contents which might have value in such a manual vary greatly according to the many differences in organization, numbers of personnel being the chiefly controlling factor. A "FOREWORD"—telling the general purpose of the manual and something about the aims and ambitions of ownership, both for itself and employees, is always a good starting point.

Close to the beginning, it is a good idea to explain whatever system is used to identify material in the manual. In this connection, it is wise to set up a flexible identification system which will serve without change regardless of how much the business (and the manual) may grow. A common method is to assign an alphabet letter to each basic group of subjects and to use numbers for identifying material within each group. For further ease of recognition, subjects related to major departments can be assigned numbers from 1 to 99 and those related to sub-departments can each use a different hundred-series such as 101-199, 201-299, etc.

Another section should contain a clear explanation of how your organization plan is to work—the basic principles applying to all personnel. Lines of authority and responsibility (referring to the Organization Chart for aid in understanding) should be explained. An exact definition of the authority delegated to key people should be given. The responsibility that goes along with that authority should be made clear. Stress should be placed on the need for each key person to designate and train a substitute qualified to take his place at any time necessary so that no part of the business need ever be bogged down because of illness or other causes of absence.

A section devoted to Ownership

should be included, making clear the exact position of the individual or group in the overall operating picture. The correct position of Ownership, whether a single proprietor, a partnership or corporation, is this:

1. Ownership provides capital to establish and operate the business and enunciates such basic policies as are to be followed in its operation.

2. Ownership selects a General Manager (who may or may not be a member of the Ownership Group) to operate the business profitably, he being free to fully control such operation, subject only to the basic policy limitations above referred to.

Complete and clear statement of those principles becomes particularly important where a business has several "owners," whether as partners or through a corporation. It should be made completely clear that members of the group have authority only, in their capacities as part owners, to participate in establishing basic policies and selecting and/or replacing a General Manager.

A section devoted to General Management should specify any operating policies which the General Manager considers necessary, any decisions which should not be made or types of basic operating changes which should not be undertaken without his approval. Such statements constitute limitations of the "complete authority" which is otherwise delegated to each major department head and in turn, by them, to sub-department heads.

It is well to note, in this connection that both Ownership and General Management are well advised to reserve to themselves as few prerogatives as possible. Most day to day decisions can safely be made by subordinate personnel. What may seem to be a mistake in judgment is usually merely a difference of opinion and, in any case, few mistakes are serious enough to do permanent damage to the business. If the authority of key people is watered down to the point where it means nothing,

(Continued on page 108)

most powerful 1/2" drive

ELECTRIC

NEW
size 5U

25% more power



ROTARY
IMPACTTOOLS

still the leader in ELECTRIC Impacttools

The 25% greater power of the new 5U assures faster, easier handling of your nut running jobs on all modern, high compression, high torque engines. Extra reserve power handles all but the largest nuts and bolts on cars and trucks. Added power speeds up universal joint and angle head jobs. Quickly applied standard attachments permit faster, easier drilling, screw driving, reaming, tapping, wire brushing, hole sawing, etc.

See what this 25% more powerful successor to Ingersoll-Rand's famous 4U Impacttool can do for you in terms of time, effort and money saved. For on-your-job proof of the 5U's extra power, or for a demonstration of Ingersoll-Rand's 2U, 8U, and 34U Electric Impacttools, call your Ingersoll-Rand jobber today.

18-152

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AIR COMPRESSORS



AIR



ELECTRIC



IMPACTCUTTERS



TIRE TOOLS



AIR STARTING MOTORS

Originators of Impacttools

AIR & ELECTRIC

we have wasted our time in seeking to set up an organization plan and have lost sight of the original aim which is to place everybody in the best possible position to *get things done* promptly and well. No man can properly discharge any responsibility he lacks adequate authority to control.

The main body of your manual

will consist of job denitions covering each key position; that is, the job of each major department head and the heads of such sub-departments as the business requires. Lines of reporting for each individual position should be made clear. Detailed duties, amplifying the general statements contained on the Organization

Chart, should be explained as necessary. Each manual holder should, at any time, need only turn to the page or section covering his position to learn exactly what is expected of him.

While the original aim of such a manual is to establish the organization pattern, its further uses should not be overlooked. Here is the medium through which to obtain uniformity with respect to such subjects as office procedures, paper flow, the handling of sales, servicing of vehicles, or any other subject where uniformity and sure understanding are important to proper operation.

When lines of authority and responsibility have been depicted on the Organization Chart and fully explained in the manual, they should be observed rigidly with respect to all subjects—such as the issuing of assignments or instructions and the employment or discharge of workers. No one, not even the top man, should ever “go over the head” of even the lowest level of key personnel. To do so immediately weakens that person’s authority so that he can no longer rightly be held responsible for results in his department.

Observance of that principle does not in any way prevent the giving or seeking of aid, advice or suggestions. Offering or asking for guidance or assistance is in no way precluded by rigid observance of organizational lines. However, decisions must continue to be made by the correctly responsible people in every instance. The privilege of accepting or rejecting advice always goes with the assignment of responsibility and authority. The *result* is what counts and superior authority should be exercised only by replacement of the person who cannot produce a satisfactory result.

With the organization plan visually depicted on a chart and fully explained in a manual, we are ready to put the plan to work. The steps necessary to do so are the naming of people to all key positions and indoctrinating everybody in the principles under which the organization is to operate. These will be the subjects of our next and final discussion.

Outstanding engineering design and precision manufacturing technique combine to provide finest possible performance, long life, handling ease and operating simplicity. Fully enclosed Diamond chain drive. Enclosed Timken reel bearings with automatic take-up. Patented, positive action, non-wearing clutch. Extra strong, zinc die cast alloy frame. Zinc die cast alloy pinions with hardened steel inserts. Patented “Quick-set” height adjustment with a range of $\frac{1}{8}$ " to $2\frac{1}{4}$ ". Briggs & Stratton 4-cycle engines (rope or recoil starters). Power driven weed topper and reverse belt for self-sharpening - optional equipment.



The Cooper “Cyclo-Mo” Trimmer Type Rotary Power Mower with improved design provides lighter weight, **MAXIMUM SAFETY**, closer trim and contour cut with **NO SCALPING**. Adjustable front grass chute eliminates **WINDROWING** or **BUNCHING**. Simple height adjustment from $1\frac{1}{2}$ " to $3\frac{1}{2}$ " permits the cutting of high grass or tough weeds. Briggs & Stratton 4-cycle engines (rope or recoil starters). “Cyclo-Mulch” leaf mulchers optional equipment.

NATIONALLY ADVERTISED IN '55

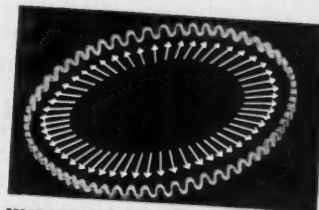
More “Klipper” and “Cyclo-Mo” power mowers were sold in '54 than in any other year in the history of the company. Every year - more and more home owners realize that only Cooper gives them the added years of trouble free satisfactory performance.

Write, wire or phone **TODAY** for literature, prices and name of nearest distributor. Learn why it is more profitable to **SELL** Cooper - than to sell **AGAINST** it.

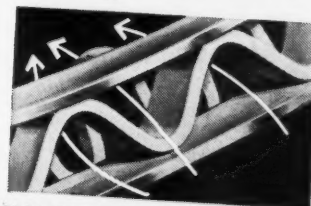
BUILT FOR THOSE WHO WANT THE BEST

**COOPER
MANUFACTURING CO.**
727-729 South First Avenue
MARSHALLTOWN, IOWA

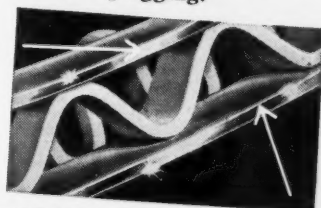
THESE PEDRICK *FORMFLEX* OIL RING ADVANTAGES MAKE THE BIG DIFFERENCE



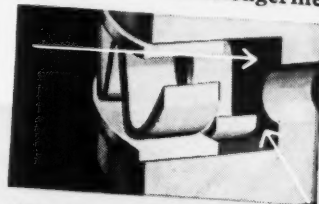
UNIFORM PRESSURE DISTRIBUTION—"Equalizer" gives equal outward pressure for more perfect seal—better oil control—longer life.



ALMOST TRIPLE OIL DRAINAGE— $2\frac{1}{2}$ times more open area provided by "Equalizer" and Spacer. Also, no plugging.



CHROME FOR LONG LIFE—Faces of steel rails chrome plated for 2 to 4 times longer life.



INDEPENDENT OF GROOVE DEPTH—"Equalizer" does not rely on contact with bottom of groove for pressure or tension.

... AND FOR HEAVY DUTY ENGINES

The PEDRICK CHROME TOP RING



ELIMINATES BREAKAGE. A special alloy centrifugally cast and heat-treated, is exceptionally tough and stands up without breakage even under the heaviest loads.

HEAT SHAPED. Process developed and used exclusively by Pedrick to insure correct and lasting tension, and to maintain uniform pressure around entire circumference of ring.

POSITIVE 3-WAY SEAL. Twist-Seal design gives point contacts at cylinder wall and upper and lower sides of ring groove—for quick and lasting seals at all three locations.

2 TO 4 TIMES LONGER LIFE. The solid hard chrome face lasts up to 4 times longer and also reduces wear on cylinder wall and on all the other rings.

WILKENING MANUFACTURING CO.

PHILADELPHIA 42, PA.

In Canada: Wilkening Manufacturing Co.
(Canada) Ltd., Toronto

Lubrication Continued from Page 77

keep the car fully lubricated by merely pressing the button once a day. The entire operation requires only a couple seconds, and a green light on the control panel indicates the job has been done.

Exhaustive durability tests have shown that there is no danger of fatigue breakage from vibration and the constant motion of front

suspension and steering. The tubing is said to have an indefinite life expectancy.

The high pressure lubrication system was designed by the Lincoln Engineering Company, St. Louis. It is a vacuum-operated system that lubricates the chassis bearings merely by pushing a button on the dashboard.



Every mechanic knows his hands take a beating no matter how careful he is. But the mechanics who like a full week's work and a full week's pay—standardize on Bonney and avoid injuries caused by inferior tools.

Bonney Tools are the cheapest insurance against unnecessary hand injuries!

Bonney Tools are real knuckle-savers—the easiest-handling, best-looking tools on the market today. They're lightweight, but strong . . . precision engineered to insure accurate, no-slip fit on those tricky jobs that can be so dangerous to men who work with tools.

Cheap tools are for chumps! Don't take unnecessary chances that can prevent you from collecting your paycheck. Use Bonney Tools!



BONNEY FORGE & TOOL WORKS, ALLENTOWN, PENNSYLVANIA

All of the feed lines are covered with varnish-coated fibreglas loom, and clipped securely to chassis parts on the way to the bearings. The lines are connected to the bearings by specially designed hydraulic adapters which lock fast to the grease fittings. This assures a positive, leakproof connection.

Under average conditions, the injection pressure at the bearing is approximately 2,000 psi. The lubricant output to each bearing is usually .002 ounce.

The car is thoroughly lubricated by cycling the system every 50 miles or once a day. The system can be operated 290 times or for an estimated 10,000 to 14,000 miles before it is necessary to replace the 7-oz. can supplying the lubricant.

Feeder lines from the 12 outlet ports in the hydraulic booster are taped together to form a compact, easily handled harness for simplicity of installation.

Separate feed lines are used for each bearing so that each one receives an equal amount regardless of the fit of the bearing.

Bearings served by the system consist of the selector lever (where applicable), upper and lower ball suspension joints, left and right wheel, inner and outer tie-rods left and right, left and right center links, idler arm (where applicable) and clutch equalizer bar (where applicable).

Lincoln centralized lubrication systems have been used for several years on over-the-road trailers, buses, crawler-type tractors, farm implements and machinery.



...“no customer resistance to Commercial Credit Plan”

says **MR. JOHN W. HANRON**, Sales Manager of Hub Motor Car Co., Inc., DeSoto-Plymouth dealers in Boston, Mass.



WE HAVE used COMMERCIAL CREDIT PLAN since we started business in 1937 and results have been good. Our customers like the plan so there's no customer resistance. From our standpoint we like the fact that we can close

sales quicker because we can work with COMMERCIAL CREDIT by telephone. The fact that we can settle insurance claims quickly is important as is COMMERCIAL CREDIT PLAN's automatic insurance coverage."

COMMERCIAL CREDIT DEALERS ARE *Successful* DEALERS

Let us show you how COMMERCIAL CREDIT's broad experience, large resources and complete financing facilities can contribute to your successful operation. Write, wire or phone your nearest COMMERCIAL CREDIT office. You'll get prompt action.



**COMMERCIAL
CREDIT
CORPORATION**

A service offered through subsidiaries of Commercial Credit Company, Baltimore... Capital and Surplus over \$170,000,000... offices in principal cities of the United States and Canada.

Body Parts List Continued from Page 74

Mercury—continued

BA-7002042-B—Cowl side pillar & panel.....	13.94
BG-7001610-B—Dash panel..	11.30
BF-7320124—Front door	60.00
BF-7324300-B—Center body pillar	17.25
BF-7324630-C—Rear door ..	51.25
BF-7011135-A—Front floor plan	73.13
BR-7327700-B—Wheelhouse & qtr. panel	65.00
BG-7040110-A—Deck lid	43.00
BA-7050200-A—Roof panel..	67.50

Nash

3116027—Ser. 40, front fender	34.95
3138421—Ser. 40, hood top panel	38.65
4373857—Cowl panel	17.95
4367159—Roof panel	51.35
4367079—Ser. 40, wheelhouse, inner left	22.75
4367089—Ser. 40, wheelhouse, outer left	14.75
4475487—Rear deck upper panel	20.40
4367246—Rear deck lid.....	41.90

Nash—continued

4367145—Rear deck lower panel	6.90
4367269—Rear qtr. panel, left	21.20
4475497—Rear fender, left..	36.10
4475789—Ser. 40, front door, left	46.00
4475491—Rear door, left....	46.00

Nash Rambler

3138297—Front fender, left..	29.10
3138204—Hood top	34.95
4475660—Dash panel	29.10
4475664—Front body pillar, left	15.75
4475668—Front door, left...	50.65
4373411—Front floor plan...	43.70
4368863—Rear floor plan....	43.70
4373020—Lower deck panel..	9.30
4350217—Roof panel	40.75
4475451—Rear qtr. panel, left	58.15
4373041—Rear fender, left..	28.00
4357481—Body lock pillar...	9.30

Oldsmobile

565076—Right front fender..	33.10
564869—Hood panel	49.35
4637390—Cowl & dash panel	55.00
4632067—Lower cowl side panel	5.55
4638095—Outer front door panel, right	22.75
4633662—Center body pillar	28.50
4632528—Outer rear door panel, right	23.75
4639772—Rear qtr. panel, outer right	95.85
4632726—Rear deck lid.....	65.95
564842—Rear fender panel..	6.00
4635791—Roof panel	57.50
4631255—Rear end panel....	6.30

Packard

436526—Front fender, right	53.50
448611—Hood assy.	75.00
424443—Cowl top panel....	8.15
447126—Front door, right...	64.20
424798—Front door repair panel, right	14.12
454632—Rear door repair panel	15.00
454524—Wheelhouse floor, inner right	4.69
454540—Rear deck lid.....	60.00
447766—Rear fender assy., right	58.85
454498—Roof assy.	115.00

Plymouth

1494775—Front fender, right	27.95
1494309—Front fender ext...	1.95
1540929—Hood panel assy...	37.45
1522660—Dash panel	13.50
1431960—Cowl side panel, right	20.00
1525868—Front door panel..	11.25
1431296—Front door shell...	50.26
1431476—Center body pillar	16.50
1525870—Rear door panel...	11.25
1431330—Rear door shell....	50.26
1542964—Rear deck lid.....	39.25
1431291—Roof assy.	104.85

(Continued on page 114)

Distinctive Packaging for Products of Distinction



ERTEL PRODUCTS

... the complete line of replacement parts...
truly "PRODUCTS OF PROVEN PRECISION"

Valves

Valve Springs
Valve Retainers
Valve Guides
Engine Bearings
King Bolt Sets

Tie Rod Ends

Drag Links
Shackle Sets
Cylinder Sleeves
Sleeve Assemblies
Pistons

Piston Pins

Pin Bushings
Wheel Suspension Parts
Water Pumps
Water Pump Kits
Motor Mounts



ERTEL PRODUCTS CO.

1400 East 20th St., Indianapolis, Ind.

Increase your winter profits



Sell safer all-weather driving . . . sell **MONRO-MATIC** **SHOCK ABSORBERS**

The Shocks the Indianapolis Winners use

Make the winter months your *Extra Profit Months!* Monro-Matic Shock Absorbers, proved by the world's fastest drivers to provide a smoother, safer ride on the race track, will also provide smoother, safer driving for your customers in winter's snow and ice and slush. So, for greater customer satisfaction, easier sales, bigger profits, sell Monro-Matics!

Cash in on this PROFIT TIP...



MONRO-MATICS MAKE YOU AN EXTRA \$12 ON WINTER TUNE-UP JOBS

Every winter tune-up should include a check of the shock absorbers. When you replace worn shocks with Monro-Matics you build customer goodwill, while you gain an extra \$12 profit from the tune-up job.

MONROE AUTO EQUIPMENT CO., MONROE, MICHIGAN
World's Largest Maker of Ride Control Products

Chilton's MOTOR AGE, JANUARY, 1955

30-DAY FREE RIDE PLAN

Get the facts on the industry's most sensational sales-producing plan. Dealers report sales and profits upped as much as 500% by the Monroe 30-Day Free Ride Plan.

FREE!



You are invited to a FREE Showing of "Behind the Scenes at Indianapolis." Ask your jobber for date of showing.



Body Parts List Continued from Page 112

Pontiac

517623—Hood panel	17.75
517646—Std. front fender, right	34.82
4599501—Cowl & dash assy..	100.89
4628158—Cowl side panel....	7.00
4200412—Front door assy., right	49.75
4596749—Front door outer panel, right	15.95

Pontiac—continued

4260420—Rear door assy., right	49.25
4191752—Rear door outer panel, right	15.55
4629755—Center body pillar, right	21.50
4625922—Outer qtr. panel, right	24.00
4631404—Rear deck lid.....	54.50
4627789—Roof panel	49.45

Studebaker

298404—W, F, Y, D, front fender, right	43.00
303094—C, K, front fender, right	46.50
304970—W, F, Y, D, hood top panel	41.00
304971—C, K, hood top panel	42.50
299610—W, Y, dash panel...	24.00
299222—W, Y, cowl side panel	23.50
298050—W, Y, front door, right	52.50
297290—W, Y, center body pillar, right	21.50
298054—W, Y, rear door, right	51.50
612242—W, Y, rear wheel- house panel, right.....	27.75
306157—W, Y, deck lid.....	42.50
304654—W, roof panel	69.75
304655—Y, roof panel.....	73.50

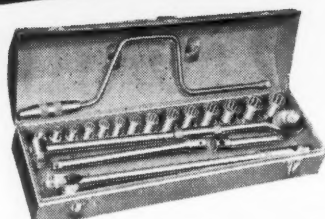
Herbrand makes 'em all!

Herbrand's complete line contains over 850 Van Chrome Tools—the finest money can buy!

You can buy Herbrand Tools separately or in a wide variety of fine sets ranging from the smallest ignition assortment right up to the complete Rollway Workshop. All sets are available for immediate delivery.

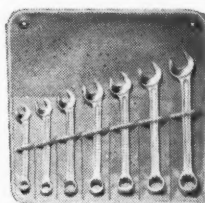
They offer pace-setting proven designs, powerful forged alloy steel construction, hot broaching, expert machining, and finished in glistening chrome.

See these superior tools at your Herbrand distributor or write us for big illustrated catalog No. 55 of complete Herbrand line, enclosing 25¢ to cover cost of mailing and handling.

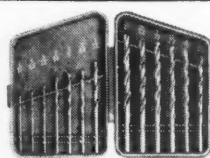


No. 5B-73. 12 point sockets range from 3/8" to 1 1/8".

No. 1290R. 15° and 22 1/2° angle combination Wrench Set. Openings are 3/8" to 3/4" by 1/16" steps.



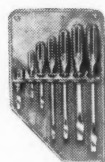
No. B3R Universal Battery Service Set.



No. DR113 Drill Set. Contains 13 high speed drills from 1/16" to 1/4" by 64ths.



No. 6821R. Flexible Box Wrench Set. Sizes 3/8" to 3/4".



No. SD7R. Screw Driver Set. Contains 7 different sizes.

Herbrand Tools

FREMONT, OHIO
THE BINGHAM-HERBRAND CORPORATION

Herbrand
VAN-CHROME TOOLS
...the finest money can buy!

Electric Trucks On Comeback Trail

Demonstration of the first modern, electrically-powered delivery street-truck was given recently by Gould-National Batteries, Inc., manufacturers of the vehicle. Attended by thirty firms interested in its use, the demonstration of the new "Electruk" took place in Buffalo, New York. The truck utilizes a powerful long-life storage battery for economy of operation and there are only five moving parts, an armature and four wheels. Electruk has a range of from twenty to forty miles on "stop-start" delivery routes at a running speed of twenty miles per hour. Operating costs have been reported that indicate fuel and maintenance costs will be reduced approximately 75%. Every part of the chassis is standard automotive equipment, except the motor, control unit and battery. Special features are its efficient lighting system and jack knife doors for easy access and loading.

**...the bearings
that fit
like the original**



● There's only one way to be sure that bearings will fit . . . get duplicates made by the same men on the same equipment by the same company that is the world's largest manufacturer of original equipment bearings.

You can do this by installing Clevite* or Micro*

*The words Monmouth, Clevite and Micro are registered trade marks of Clevite Corporation

bearings . . . available through your N.A.P.A. jobber.

And you get service on these bearings like you never saw before!

Next time you need bearings, check with N.A.P.A. You'll get a completely different idea about good bearing service!

Monmouth
TRADE MARK
ENGINE BEARINGS

Clevite Service
The Cleveland Graphite Bronze Co.
Division of Clevite Corporation, Cleveland, Ohio, U.S.A.



*Your
NAPA Jobber
is a Good Man
to Know!*

Hot Rods Continued from Page 81

engines. Such an engine will usually produce the required degree of power in near-standard form, without the extensive modifications that would detract somewhat from engine longevity and reliability.

Power, transmitted to the driving wheels, is usually routed through a manual shift transmission, which is still highly regarded

when optimum performance is required. Many times, a planetary overdrive is used in conjunction with such a gearbox. The final drive ratio is usually the lowest numerical ratio available with the car's standard rear axle assembly.

A car so equipped will provide long and dependable service. It can be made to handle with equal

ease in city traffic or on the highway. It has an honest 110 to 115 mph top speed and accelerative qualities that would frighten the average motorist. In fact, such a car has everything its predecessors could ever have, plus comfort.

For the competition minded, quarter-mile acceleration trials have witnessed a phenomenal growth since their organized inception in 1951. Today there are over 100 known and recognized "drag strips" as they are called, in all sections of the country. This phase of the sport is flourishing because of a lack of localized sites, suitable for top speed straightaway runs. Unified competition rules and those governing the safety of competitors and spectators have been established by the headquarters of the 18,000-plus member National Hot Rod Association.

The short strip enthusiasts have conceived a completely new, different and very specialized machine, known as the "dragster." This type of car is built to start from point "A" at a standstill and travel to point "B," a quarter-mile away, in the fastest possible time. With such a car, light overall weight and correct weight distribution are essential factors. The laden weight of a dragster may be as little as 1,100 lb, resulting in an actual power-to-weight ratio of about 4½ lb per brake horsepower. Elapsed time over a standing start quarter-mile have been very accurately clocked at slightly over 10 seconds with top speeds at the end of the quarter in excess of 142 mph!

In a typical dragster, the driver is located over or just ahead of the racing type quick-change rear axle assembly. He straddles the manual shift transmission, which is stripped of all gears except for two forward speeds, usually second and high. The engine is as close to the rear wheels as possible, resulting in a weight distribution of about 70%/30%, rear to front, which materially aids driving wheel traction, along with special, wide-base "slick" rear tires. Wheelbase generally ranges from 95 to 115 in. The streamlined, single place, aluminum body encloses the frame, engine and driver's compartment with

(Continued on page 120)

K-D TOOLS MAKE HARD JOBS EASY!

New hose clamp pliers.....

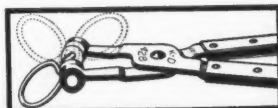


IT'S K-D NO. 428

.... solves a BIG problem

Specially designed to reach deep into motors to remove or install these spring wire hose clamps from impossible places. If you've struggled with them up to now—get a 428 and end your troubles.

Overcomes difficulties of removing and installing hose clamps like this

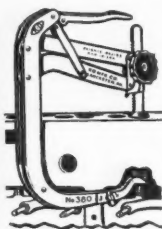


Jaws swivel thru 180 degrees.

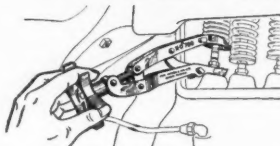
FOR ALL SIZES...

K-D 428 services large or small clamps, and the jaws swivel thru 180 degrees, so you can get them in or out from any position. Deep slots in the jaws hold clamps securely. See your jobber.

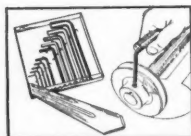
EXTRA "K-D HANDS" FOR EVERYDAY JOBS



K-D 380 Compressor for overheads and L-heads old or new. The most popular valve spring compressor in the U. S. A. Safe, fast, and dependable.



K-D 700 Valve Spring Lifter is just right for most L-heads (including Ford 6 after 1948). Turning hand-wheel raises, lowers jaws.



K-D 30 Socket Screw Key Set. 11 hex keys sizes .050 to 3/8" packed in rust proof metal kit, plus extension handle to use on short end of key.

FREE CATALOG—over 100 "K-D Tools" to make hard jobs easy described, illustrated.

K-D MFG. CO., LANCASTER, PA.



In the last thirty years K-D Tools have become a symbol of reliability. You can rely on them to make hard jobs easy, as we claim.....because they are designed by and shop-tested by mechanics like yourself!



G. W. "Bud" Rogers, service manager, Streitweiser Buick Co., Hillsboro, Oregon

"We start 'em off on Royal Triton..."

"That's right! Every new Buick we deliver has Royal Triton 10-30 Motor Oil in the crankcase.

"Ever since 1950 when I discovered what a difference Royal Triton made in my *own* car's performance, I've recommended it to all my service customers.

"I've found, too, that the owners of the cars we've started off on Royal Triton generally stick to this fine oil and to our service department, as well.

"Not only is Royal Triton great for breaking in new engines — it *keeps* those engines clean and running like new for thousands of extra miles. Stuck rings and valve lifters just don't seem to occur in cars we service regularly with Royal

Triton. Believe me, Royal Triton has certainly helped build customer confidence in my department."

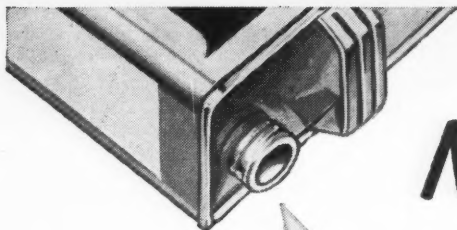
As Bud Rogers has found, it's good business to recommend Royal Triton. Your nearby Union Oil representative can give you prompt delivery of this *amazing* purple motor oil in both 5-20 and 10-30 grades.

UNION OIL COMPANY

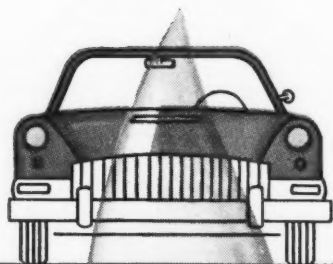
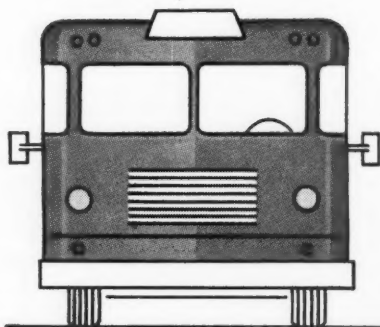
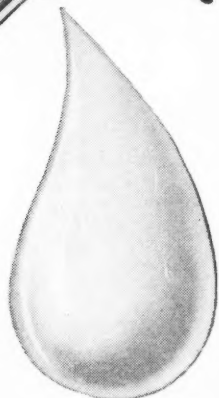
OF CALIFORNIA

76

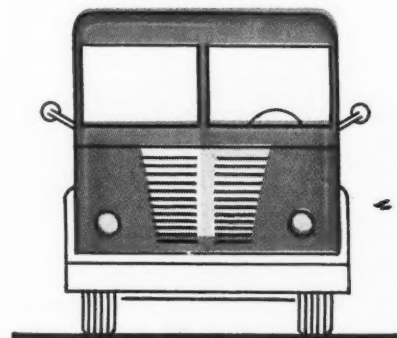
Los Angeles: Union Oil Bldg. • New York: 45 Rockefeller Plaza • Chicago: 1612 Bankers Bldg. • New Orleans: 644 National Bank of Commerce Bldg. Atlanta: 401 Atlanta National Bldg. • Kansas City, Mo.: 921 Rialto Bldg.



Makes Good Brakes

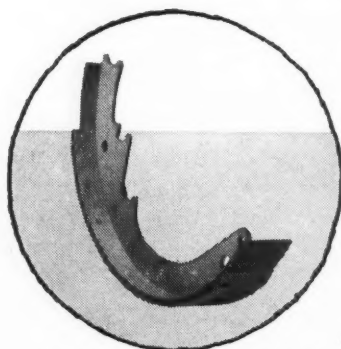


DELCO SUPER II *Heavy-Duty*



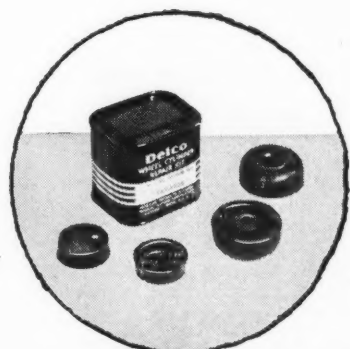
Gives Surer Stops under any

DELCO *Makes
Brake Repair
Easy!*



DELCO LINED BRAKE SHOES

Best for replacement because shoes and lining are made and assembled to original equipment specifications.

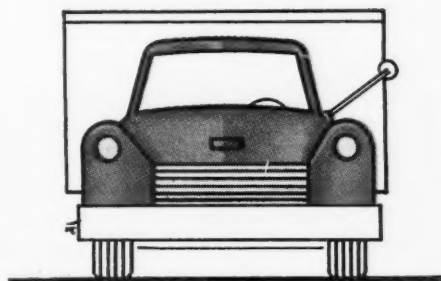


WHEEL CYLINDER REPAIR KIT

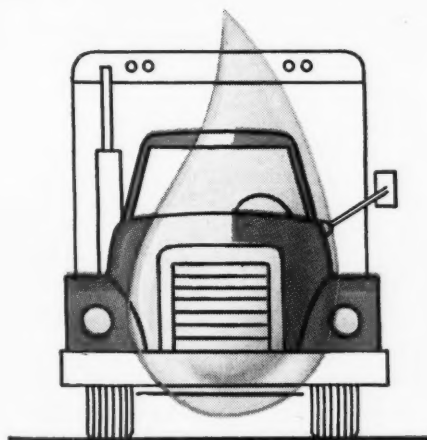
Contains all parts needed to restore a wheel cylinder to original operating condition.

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Better



Brake Fluid



Conditions



MASTER CYLINDER REPAIR KIT
Contains every part necessary to put a master cylinder back in normal operating condition.

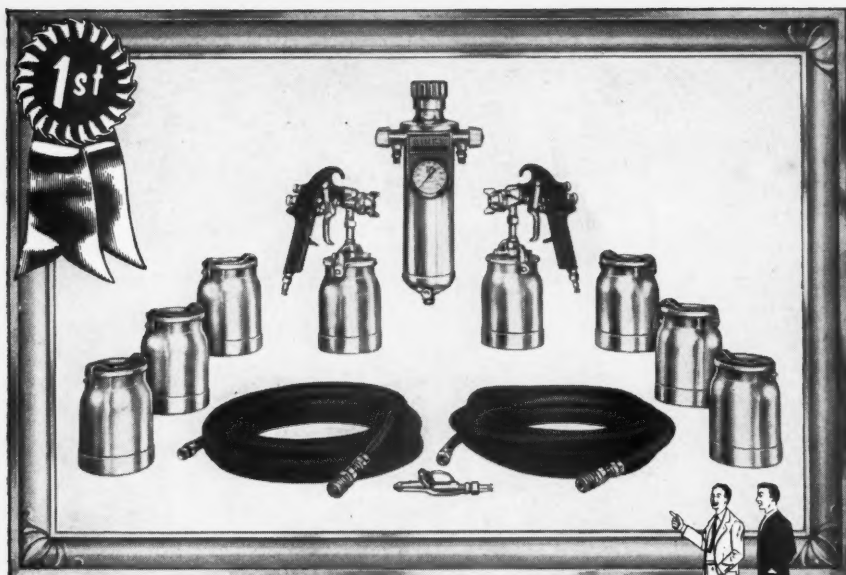


Cars, trucks and buses stop better—stop faster—in heavy traffic or light, with Delco Super 11 heavy-duty brake fluid in the brake systems. Delco Super 11 exceeds U. S. Government specification VV-F-451a. It also exceeds SAE specification 70R1, which establishes performance standards for heavy-duty brake fluid, including operating temperature ranges, lubrication, stability, corrosive effect on metals and rubber. There's a big pre-sold market for Delco Super 11, too—it's factory-installed in many vehicles, including all General Motors cars and trucks. You can order Delco Super 11 and Delco Super 9—the moderate-duty brake fluid that exceeds SAE specification 70R2—from your United Motors distributor. Both are available in any convenient quantity, from 8-ounce cans to 54-gallon drums.



moraine products

DIVISION OF GENERAL MOTORS, DAYTON, OHIO



Acclaimed as the finest by those who should know!

Here is a really deluxe spray painting package for the particular automobile refinisher. It is known as the Binks S-570 Spray Painting outfit ...and just take a look at what it contains:

2 Model 18 Spray Guns, the favorite of leading automobile manufacturers, complete with Model 81-500 one-quart clamp on type cups.

1 Model AO-120 Oil & Water Extractor, the most up-to-the-minute extractor made. It removes water, oil and impurities from ample air to supply both guns operating simultaneously.

6 extra one-quart Model L-47 siphon cups with special type 81-4 clamp-on Sealtight covers for safe paint storage in the cup.

1 Binks Model 150 blow gun, the handy palm-size gun so ideal for dusting and drying.

2 25-foot lengths of Binks heavy duty hose.

Binks Quick-Detachable air hose connections are used on the spray guns, blow gun and hose. These make it a simple one-second job to make or break an air connection.

They form air-tight joints, yet permit free flow of air. Their use eliminates lost time threading and unthreading connections, prevents cross threading with the resulting damage, makes wrenches and other tightening tools unnecessary, permits disconnection without turning off the air, and encourages workers to disconnect and care for the guns.

It is no wonder that refinishers acclaim this new outfit which wraps up in one package the finest of everything that is needed to apply better finishes, faster.

ASK YOUR JOBBER ABOUT THE S-570 OUTFIT. Let him show you why it is the ideal outfit for any refinishing department that wants the best equipment.

Ask about our free spray painting school.. no obligation.



SPRAY BOOTHS



COMPRESSORS



FLUID HANDLING PUMPS

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Hot Rods . . .

Continued from Page 116

the wheels left "open." The driver is protected by such mandatory safety items as a properly gusseted and braced tubular roll bar, CO₂ fire extinguisher, fuel shut-off valve, ignition "kill" button, a properly mounted aircraft-type safety belt, a crash helmet and goggles and at least two wheel hydraulic brakes.

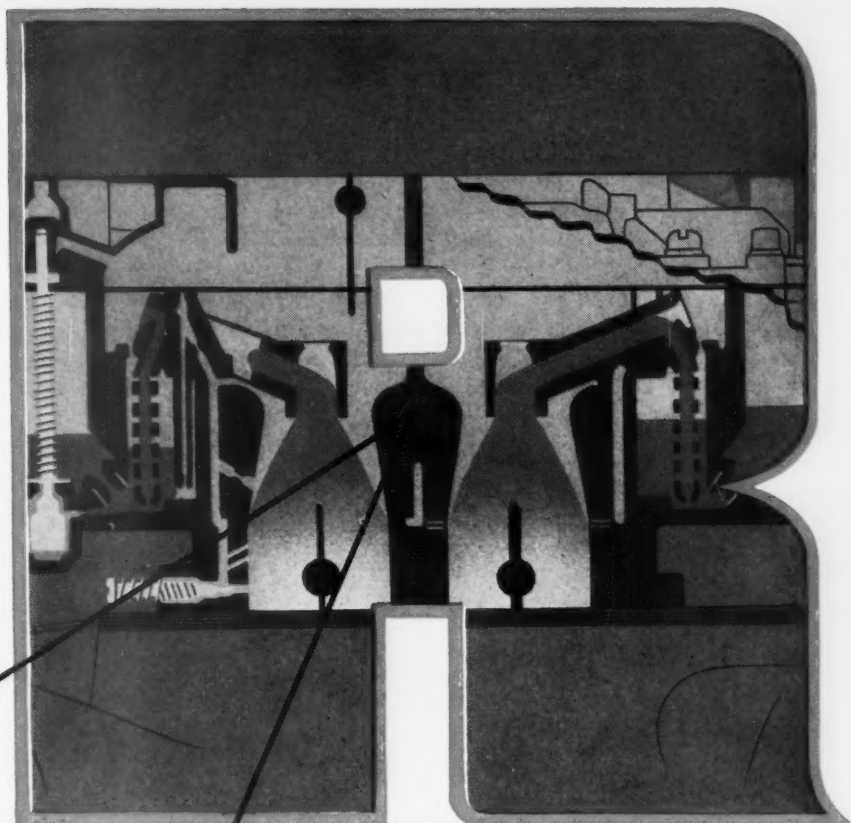
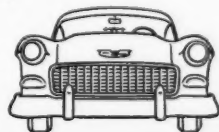
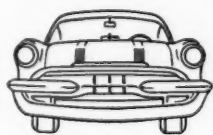
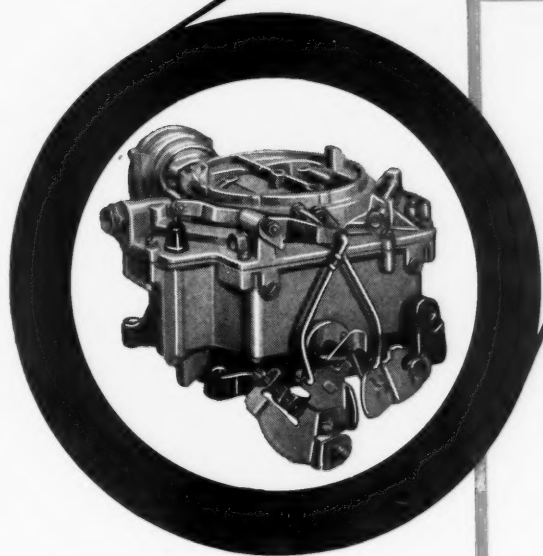
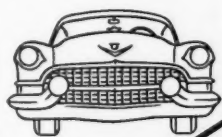
Because of the short distances involved, an engine radiator and water pump are considered as non-essentials, engine cooling water being circulated by thermo-syphon through transfer tubes built to suit the engine installation. In fact, a few engines are run "dry," completely without cooling water.

Still another facet of the hot rod sport are timed straightaway top speed runs. The dry lakes of the Southern California area are no longer suitable for the speeds being turned. Consequently, the week-long annual Bonneville National Speed Trials are held to accommodate these enthusiasts, which brings about 300 entrants from almost every state in the union. The cars range from slightly modified family sedans to very carefully engineered "streamliners," some capable of speeds in excess of 250 mph.

In the streamliner classes, the hot rodders have done an outstanding job. In 1953, one car alone broke six international speed records. Another car established a new American and international diesel record. The record-breaking "Shadoff Special" is perhaps the most advanced streamliner in competition today in this phase of the sport. This car was built by Carl Fleischmann in his Glendale, California, garage. The chassis frame structure is welded chromoly tubing. A tubular axle is used at the front and is suspended by torsion bars parallel to the frame. The rear axle assembly is a full de Dion type made from standard parts with the exception of the short axle shafts, which were machined from 1948 Ford rear axles. Spicer universal joints are used at both inboard and outboard ends of the intermediate

(Continued on page 122)

**Engineered
for the
high
compression
era !**



An engine never had it so good! With a Rochester Carburetor on the job, today's modern high-compression power plants are better "fed" than ever! They're assured of a balanced diet—the right mixture of gas and air to meet every driving situation. From take-off to top speed—regardless of temperature or load condition—Rochester Carburetors are outstanding performers. They're rugged and responsive, dependable and durable . . . and specifically engineered to feed the finest engines in the industry. That's why you'll find Rochester Carburetors fueling the new Cadillac, Buick, Oldsmobile, Pontiac and Chevrolet!

CARBURETORS BY ROCHESTER

ROCHESTER
PRODUCTS
DIVISION OF
GENERAL MOTORS
CORPORATION
ROCHESTER N.Y.



Hot Rods Continued from Page 120

axle shafts. Torsion bars are also used at the rear. The Pat Warren two-speed racing type quick-change center section is bolted to a rear crossmember. This unit is shifted hydraulically from the cockpit and allows the conventional transmission and clutch assembly to be dispensed with.

The cockpit is located ahead of

the engine so that the engine weight will keep the driving wheels on the ground. Cars of this type usually develop a low pressure area above the rear half of the body, which causes the rear wheels to lift clear off the ground at high speeds. Consequently, streamliners are usually built with a weight distribution of about 60%/40%, rear to

front. 7.50 x 18 tires are mounted on magnesium pin-drive wheels front and back. Two shock absorbers are mounted at each wheel. Brakes are spot-type used at the rear only.

The engine that powers the Shadoff car is a modified Chrysler V-8. The piston displacement has been reduced from 331 cu in. to 303 cu in. so that the car would be eligible for the Bonneville Nationals "C" Class and for AAA-FIA International "C" Class. The crankshaft stroke was shortened to 3.5 in. by reducing the diameter of the crankpins, moving their centers closer to the centerline of the shaft. The crankpins were then metal-sprayed and reground to their original diameters. The valve train is actuated by a steel camshaft and tubular roller-type followers. Special tubular push rods are used that incorporate adjusting screws at their outer ends for setting valve lash. The standard size Fire-Power valves have been undercut beneath the valve heads to reduce reciprocating weight. Valve spring pressures have been increased about 50% to reduce the possibility of valve float and spring surge within the normal engine operating range.

A compression ratio of 12.5:1 was obtained by using special aluminum alloy, three-ring solid skirt pistons. The piston crowns were machined for valve clearance. A piston-to-wall clearance of .012 of an inch, measured at the bottom of the skirt, was used to reduce friction losses at this point.

Fuel is delivered to the engine by a constant-flow fuel injection device from a vane-type engine drive pump.

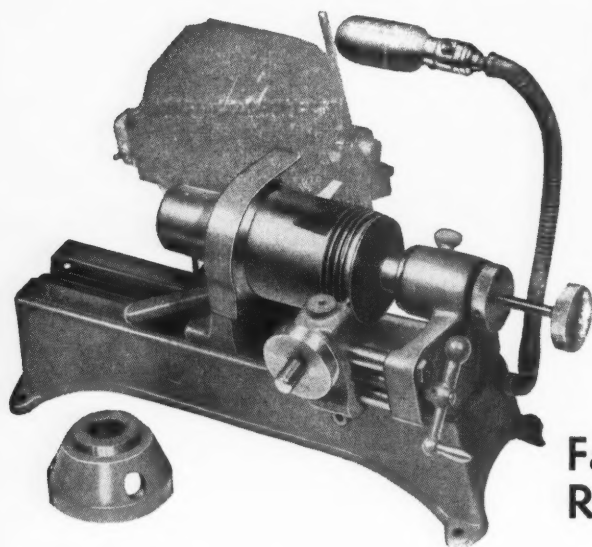
The engine was prepared for its Bonneville National and AAA-FIA runs on an engine dynamometer. Final power output is reported to be 320 bhp at 5,500 rpm using straight methyl alcohol for fuel. Engine speeds of 6,400 rpm have been reached at Bonneville without indications of distress in the valve gear.

While this chassis and engine are regarded as the near-ultimate of design and construction in the eyes of the hot rodder, the average amateur competitor, at the drag strip, Bonneville, or both, is still

(Continued on page 124)

TRUCUT *tools that pay off!*

EXTRA PROFITS FROM PISTON WORK



TRUCUT Piston Lathe

**Clean or
Center**

**SIX PISTONS
SIX MINUTES**

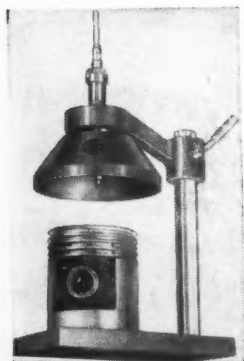
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Re-grooving**

A power-driven precision machine, especially designed for rapid and accurate re-ring jobs, the TRUCUT PISTON LATHE soon pays for itself, in extra profits.

The TRUCUT PISTON LATHE regrooves pistons and cleans grooves faster than any other known method! It also drills centers in centerless pistons, accurately and fast. It will pay you to write for Catalog M-1, today!

TRUCUT PISTON CENTERING FIXTURE

A big time-saver that enables you to drill piston centers rapidly and accurately in your own shop. Centering shell is brought down, to lock piston in correct position. Adjustable stop controls depth of drill. Powered with drill press, or electric hand drill. Write for Catalog M-1.



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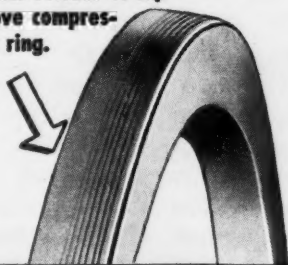
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Hundreds of new garage and independent repair shop accounts prove

Krome-Oil gives instant oil control —assures profitable jobs for you

1. Pre-seated for early break-in

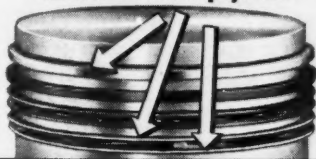
Pre-seated, narrow land contact surface of top groove compression ring.



Pre-seating is a factory-applied lapping process for the top groove compression ring equivalent to many hundreds of miles of actual engine operation. Install long-wearing chrome confidently because American Hammered Krome-Oil Rings are pre-seated. They deliver premium performance all the way, assure customer satisfaction. This is important for a profitable operation.

2. Full chrome ring set

Chrome where it pays off.



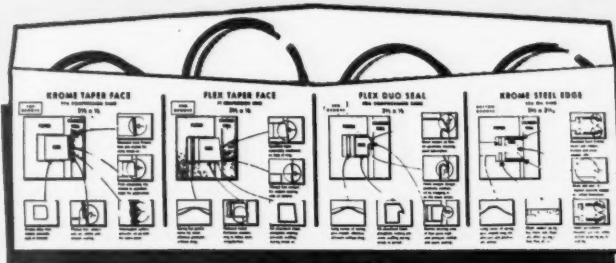
There's chrome facing on the top groove compression ring and on the side rails of the steel oil ring. This is where chrome pays off in longer engine life. American Hammered Krome-Oil rings lick the problem of ring scuffing and still assure quick seating and immediate oil control because they are pre-seated.

← Here are three reasons why

AMERICAN HAMMERED Pre-seated Krome-Oil PISTON RING SETS

3. All-in-1 ring envelope

All-in-1 ring envelope, contains all the rings for one piston. They're packaged in this envelope in the order of installation. This prevents mix-ups, saves yours or mechanic's time. A real help and time-saver in the shop.



Install Krome-Oil, the chrome ring set with all the answers

American Hammered

AUTOMOTIVE REPLACEMENT DIVISION

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Manufacturers of American Hammered Automotive Replacement
Piston Rings. A Division of Sealed Power Corporation

Remember profit-packed American Hammered Power-Plus Service—
Koetherizing • GI-60 Groove Insert • Dry Film Lubricant

Hot Rods Continued from Page 122

governed by the dollar sign. The cash outlay, as represented by the Shadoff car and others, assumes the proportions of the national debt. Consequently, the average hot rodder must console himself with a chassis and engine of lesser potentialities. Which brings us back to the ever-popular Ford and Mercury L-head V-8's.

These engines, in much modified form, are kings of the drag strips, in spite of their inherent disadvantages. Also, their performance records in top speed trials have, at times challenged and defeated the best in overhead valve competition. There are several very sound reasons for this. First, the average hot rodder is much more familiar

with this type of engine. Second, the tremendous amount of racing equipment specifically designed and produced for Ford and Mercury V-8's makes it possible to build an engine with any number of modifications from 183 to 330 cu in. of piston displacement for a reasonable amount of money. Progress has not stopped on these engines; additional refinements are still being worked out. For example, a builder of a competition Ford or Mercury V-8 can buy a camshaft today that will give a 15 to 20% torque increase all through the rpm range, as compared with camshafts that were produced five years ago. Advances have been made in carburetion as well, and four two-throat carburetors are now practically an essential for successful competition running.

The most important factor for the continued popularity of these engines in competition lies in their ability to transform large percentages of fuel additives into additional torque. Methyl alcohol is regarded as the basic competition fuel. Of the additives that are miscible with methyl alcohol, nitromethane, or "nitro" as it is called, is by far the most popular and the most beneficial from the standpoint of power output. As yet, the hot rodgers have not discovered the proper method of using large percentages of nitromethane with overhead valve engines that are equipped with cast iron cylinder heads. Primarily, this is a problem of combustion chamber temperature and heat transfer. The heat retaining qualities of cast iron, as compared to aluminum, make it quite difficult to use a large dose of nitromethane without a very destructive form of detonation and/or pre-ignition. It is almost unheard of for such an engine to successfully use more than an 80-20% mixture of methyl alcohol to nitromethane.

On the other hand, properly prepared Ford or Mercury V-8 engines have used as high as 40% nitromethane for sustained top speed runs and 60 to 75% on quarter-mile drag strips. To cite an example, one 295 cu in. Mercury engine (3 $\frac{3}{8}$ in. more x 4 $\frac{1}{8}$ in. stroke) pro-

(Continued on page 126)



...WITHOUT A THERMOSTAT TEST

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... reduces engine wear ... gives a sweet-running motor. Gets more heat out of heaters.

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Nation-wide Survey of GM Dealers and Customers Shows:

Safety POWER STEERING

Second only to automatic transmission as
MOST-WANTED OPTION!



If you think *Safety Power Steering* appeals only to a limited market—*forget it!* The figures prove that more people want *Safety Power Steering* than any other option except automatic transmission (excluding radios and heaters, of course). In fact, when first and second choices are totalled, *Safety Power Steering* leads 'em all!

What's more, we found that a *road demonstration* will convince a lot of prospects who didn't think they needed power steering. And the *new low prices* for 1955 make it easier to sell than ever before. So don't pass up extra profits by neglecting to push *Safety Power Steering* just as you now push automatic transmission!

Make sure EVERYBODY gets behind the wheel before you deal—especially the ladies. Once they drive and park with *Safety Power Steering*, they're never satisfied without it! Saginaw Steering Gear Division, General Motors Corporation, Saginaw, Michigan.

IT PAYS TO PUSH

Safety
POWER STEERING
by **Saginaw**

**NOW PRICED TOO LOW
TO PASS UP!**

duced 240 bhp at 5,000 rpm using methyl alcohol. The same engine was tested again with 40% nitromethane after corrections had been made to the carburetion. The power jumped to 300 bhp at 5,000 rpm, which represents a net power increase of 25%. Obviously, the use of nitromethane is another case of diminishing returns, the missing

15% power being consumed in increased piston and bearing friction and much higher heat losses to the engine cooling water.

There are several important steps that must not be overlooked when a good "nitro burner" is being built. First and foremost, the fuel flow rate with 40% nitromethane is roughly twice that of straight

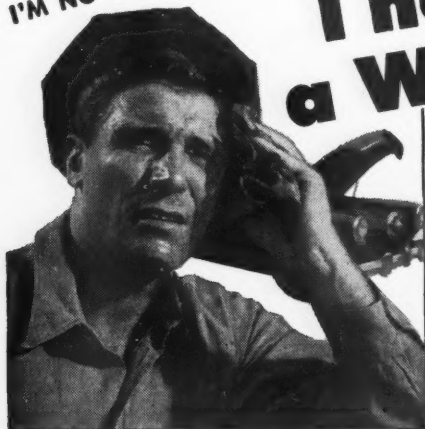
methyl alcohol. This necessitates the use of special carburetor needle valves and seats, special main metering jets and power jets. The intake and exhaust ports in the cylinder block must be enlarged and polished. The block must be "relieved" between the valves and cylinder bores to provide an adequate transfer passage. Sharp edges within the combustion chamber must be chamfered or radiused; the cylinder head gasket must not overhang into the combustion chamber; the threads of either spark plug or spark plug hole must not be exposed; valves must be "flush seated" with the surfaces or the block, polished and sharp edges removed.

The use of 1 3/4 in. diameter valves for intake ports, after the valve seat inserts have been removed, has been carried over to the exhaust ports as well. This was not due to the need of a larger exhaust valve. In most cases the standard 1 1/2 in. valve will function satisfactorily with either gasoline or methyl alcohol for fuel. It is a different story with nitromethane. During a very long and exhaustive series of dynamometer tests involving large percentages of nitromethane, many false clues were chased to determine the cause of detonation, then pre-ignition, during prolonged full throttle, full load runs. Finally, and quite by accident, the periphery of an exhaust valve seat insert was found to be blue from excessive heat. The remaining valve seat inserts were removed, valve pockets were ground out to match the seat insert counterbore and 1 3/4 in. exhaust valves were seated directly on the block. Exit detonation and pre-ignition.

Examples of such thorough and painstaking work are witnessed almost daily within the hot rod ranks. Although only a small percentage of hot rodders ever become highly skilled automotive professionals, they do develop into inventive and practical-minded young people who deserve observance by the manufacturers of the nation's automotive equipment. Yes, hot rodders, their machines and their sport have come a long way since 1949—faster, safer, and much better equipped to tackle the everyday problems of the future.

I'M NO MAGICIAN—

I need a Weller Gun!



NO Waiting

New Weller Soldering Guns heat in 5 seconds.

NO Juggling

New Weller Soldering Guns give you two pre-focused spot-lights!



NO Stretching

New Weller Soldering Guns are compact, better balanced and reach tight spots easily.



Soldering is easier, faster, better—with the all-new Weller Soldering Gun! Four models—from 100 to 275 watts—some with dual heat for extra capacity.

Power-packed Weller Soldering Gun handles more automotive repairs, and you can do extra jobs with its 2 new accessory tips—one for cutting, one for smoothing. Order from your Distributor, or write direct for catalog bulletin.

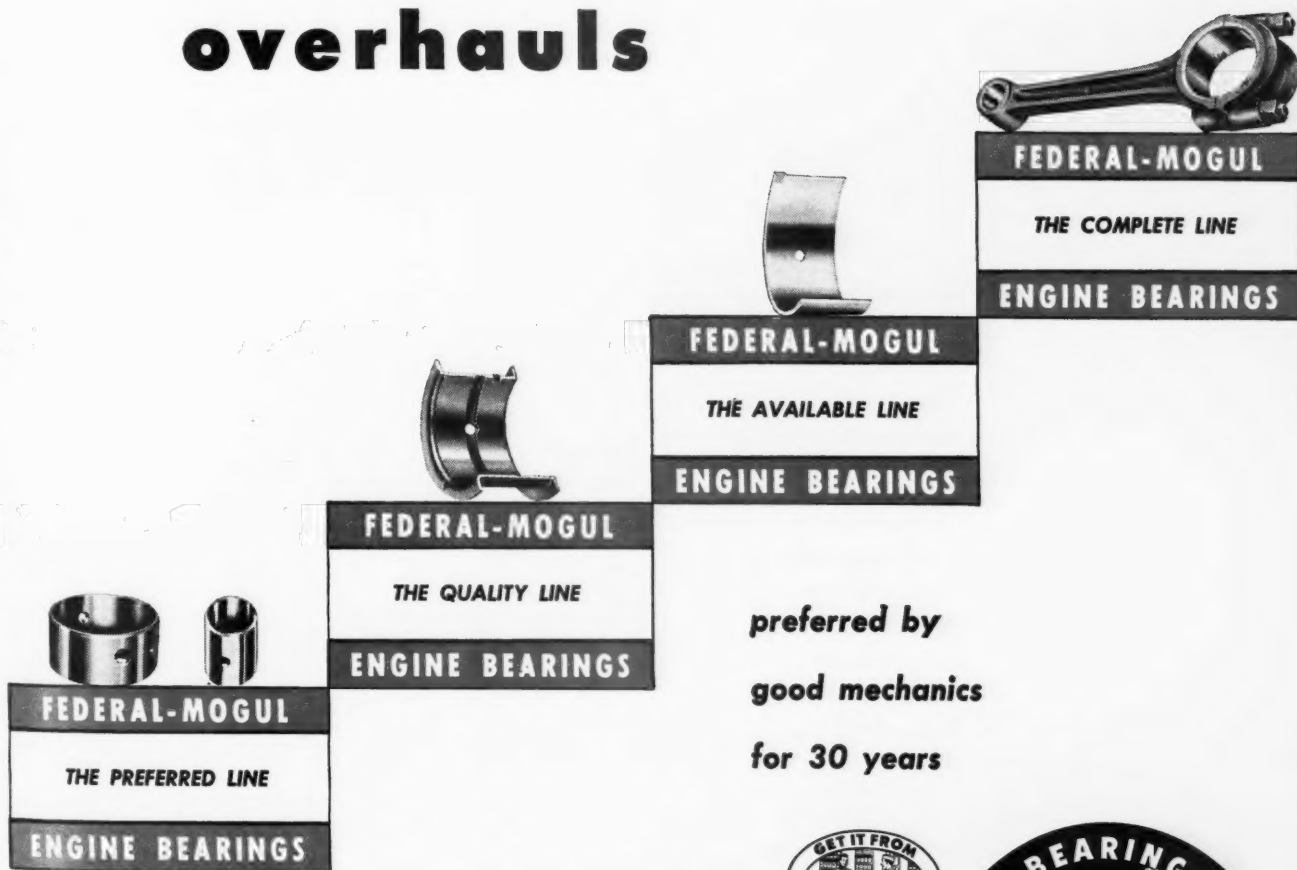
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in engine
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good mechanics
for 30 years*

The COMPLETE engine bearing service line

FEDERAL-MOGUL SERVICE

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There will be marked activity in road building over the next few years, much of this being for through highways. Due to the time necessary for financing and bringing our roads up to date, it is unlikely that the upper limit of highway speeds will increase in the immediate future. In fact, cars today have more speed than the

general public can handle. The trend is more likely to be toward engines of higher speed and higher compression, smaller in size, with less weight, but more power per cubic inch of displacement, and with better fuel economy. Public demand could force car manufacturers into larger and more powerful engines—when all is said and

done, the public determines the trend in cars by buying, whether or not the designing engineers agree. Some stylists would like to remove part of the chrome trim from cars, but the public apparently does not agree.

The trend is to V-8 engines with higher compression. The tooling and development costs on these engines have been enormous, and they will be used for some years to come. The more volatile fuels being supplied make vapor lock more serious, and a fuel pump at or in the fuel tank would give better performances. This is particularly true since the trend in styling is raising under-hood temperatures, tending to increase ragged idle and hot stalling as well as vapor lock. Research octane number of gasoline is nearing 94 to 95, which will allow higher compression, and with appropriate transmission and rear axle changes will show improvement in part-load economy.

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On every tune-up and engine repair job, look for cracked or burned molded parts. Always replace with precision molded ECHLIN Parts to insure top performance. ECHLIN Extras in Plastic molding give you Extra Quality at no extra cost.

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There is great activity in piston ring design, and an improved oil ring of new design will soon be seen in some cars. Lighter and stronger pistons made by extrusion rather than casting are creating considerable interest.

The trend in transmissions will eventually be to combine the best features of the various types available today for pickup, smoothness, and efficiency. This will require a great deal of engineering, but over the years ahead, this is a possibility.

(Continued on page 130)

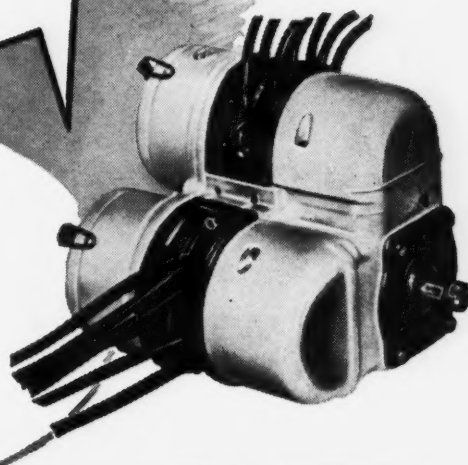
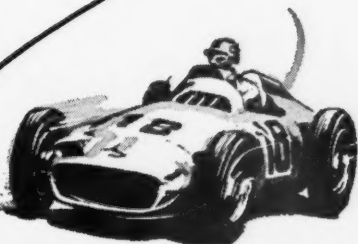
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SPARKED BY BOSCH GERMANY PLUGS!

STREAKING to the finish line in the 41st Grand Prix of France, J. M. Fangio and Karl Kling won first and second place respectively in their Mercedes Benz Silver Arrow 2.5 litre formula racers. The winning cars were the first four cycle engine cars in automotive history to be equipped with **BOSCH GERMANY direct gasoline injection**. That such a racing record was established by these cars proves again without doubt the amazing efficiency of **BOSCH GERMANY Spark Plugs!**

But this was just the first victory! Once again, in the Grand Prix of Europe, the Silver Arrows were out in front—and this time on the Nurburg Course, the most difficult in Europe. No wonder the superb performance of **BOSCH GERMANY Spark Plugs** is the talk of the international motor circles!

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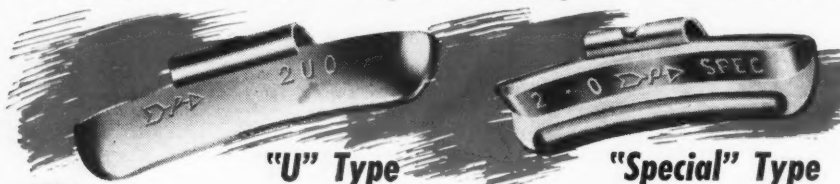
"C" Type

(Design Patent No. 171,561)

Made for all cars with K and L rims.
All passenger cars manufactured
since 1949 have either K or L type rims.
Made in the following sizes: $\frac{1}{4}$ - $\frac{1}{2}$ - $\frac{3}{4}$ - 1- $1\frac{1}{4}$ -
 $1\frac{1}{2}$ - $1\frac{3}{4}$ - 2- $2\frac{1}{4}$ - $2\frac{1}{2}$ - $2\frac{3}{4}$ - 3- $3\frac{1}{2}$ - 4-ounce.

ALL PERFECT WEIGHTS WILL FIT RIMS MOUNTED WITH TUBELESS TIRES AS WELL AS RIMS MOUNTED WITH REGULAR TIRES AND TUBES

PERFECT Wheel Weights are designed RIGHT and made RIGHT. They fit ALL rims mounted with tubeless tires. They're made to do the kind of a job that lasts and means satisfaction. That's why MORE PEOPLE RIDE ON PERFECT WHEEL WEIGHTS THAN ANY OTHER KIND. PERFECTS are precision manufactured to fit any car and GUARANTEED to be within $\frac{1}{32}$ of an ounce correct. Get the weight that lives up to its name—PERFECT.



"U" Type

"Special" Type



Fits all passenger cars made before 1949 which had either E or F type rims. Still gives satisfaction on most cars * (Not recommended for late model Fords and Mercurys. Use "C" Type for these cars.) manufactured up to present time. Sizes: $\frac{1}{2}$ - 1- $1\frac{1}{2}$ - 2- $2\frac{1}{2}$ - 3- $3\frac{1}{2}$ - 4- $4\frac{1}{2}$ - 5- $5\frac{1}{2}$ - 6-ounce.

Made for all late model Cadillacs equipped with large chrome hub caps covering the entire wheel. Made in the following sizes: $\frac{1}{2}$ - 1- $1\frac{1}{2}$ - 2- $2\frac{1}{2}$ - 3-ounce.

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Manufacturers of Wheel Weights for Trucks and Passenger Cars

Auto. Industry . . .

Continued from Page 128

Future vehicles will have improved handling and visibility, and will operate more quietly with reduced vibration. Power brakes, power steering, and an increasing number of hydraulic and electric serve-mechanisms will lessen the fatigue of even prolonged driving. Climatic control will come into wider use with reduced cost, and it is reasonable to expect the truck user to adopt air-conditioning equipment in the near future. Cars now in development will be more durable, cheaper to maintain in top condition, have increased operating flexibility and a better ride, and be more responsive to every demand of the operator. There is a need for improved braking at high speed, which is receiving attention in research and development work.

The gas turbine is in the experimental stage at many car factories. The date of its adoption is unpredictable, but is probably at least five years away. Problems to be solved include cost, economy, metallurgy, and reliability. Without question fuel economy will be improved with concentrated development work. Small turbine engines present some engineering problems more difficult than the larger engines, but over the past year considerable progress has been made, particularly in fuel economy. The use of the turbine would most logically come in larger installations, such as trucks and buses, and in small airplanes. The industry has recently developed and tooled new engines at tremendous cost, and this investment will not likely be scrapped short of a minimum of five years.

In general, the automotive industry has great faith in the future, as evidence by the millions of dollars spent in plant expansion, automation, and development work.

Two old friends met after a few years and greeted each other warmly, "By the way, Jack," asked one, "do you still talk as slowly as you used to?" "We-ell, if - you - think - I - talk - slow - you - ought - to - hear - my - stenographer," replied Jack. "She - had - a - date - the - other - night - and - the - guy - parked - on - the - way - home - and - before - she - could - say, - 'I'm - not - that - kind - of - girl' - she - was!"



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8 TON**

- Pressure Tested Castings
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- Safety By-Pass to Prevent Over Travel of Ram
- Extra Large Base
- Circular Grooved Ram Head
- Vertical or Horizontal Positioning
- Factory Tested at 1½ Times Rated Capacity

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Compare feature-for-feature and you'll realize why Hein-Werner manufactures and sells more hydraulic jacks than any other company in the world today. Ask your jobber about purchasing equipment on easy time payment plan.

HEIN-WERNER CORPORATION
Waukesha, Wisconsin



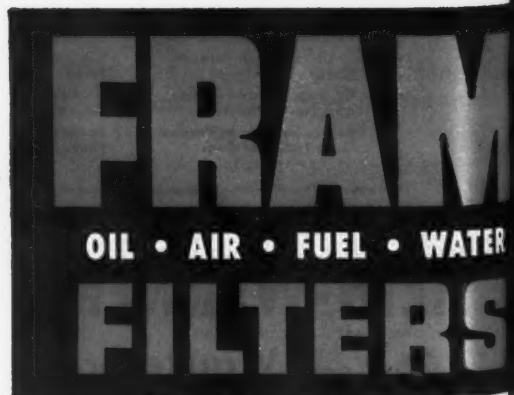
Your customers prefer FRAM



more than 2 to 1

Survey after survey shows it . . . and in many of these same surveys the preference for FRAM more than equals the preference for the next two most popular brands combined! Prove it to yourself with profits—sell all your customers FRAM!

FRAM CORPORATION, Providence 16, R. I.
Fram Canada Ltd., Stratford, Ont.





Torque Continued from Page 43

carburetion. Up to now horsepower has been king. Presumably the higher the horsepower, the better the performance. But it doesn't work out that way in the light of present day requirements for acceleration and safe highway passing.

Advertised horsepower has been going up but the torque and the shape of the torque curve has been neglected in the process. Maximum torque often was developed only at higher speeds, dropping off at lower speeds where it was really needed. That is why you now find car factories emphasizing torque at the low end. That's the only place it can do any good. For example, if you have a top horsepower engine in a car, but top torque is developed at high speed, when you try to accelerate from a stop there is not enough "umph" to move the car in competition with other cars that may have more torque at low speed. Similarly,

when you want to pass on the road and you tramp down on the accelerator, if torque drops off as you engage kick-down gears instead of accelerating faster, the car will tend to flatten out in speed and lose ground and the next thing you know you have to ease up and try to fall back in line. That's one of the effects of a drooping torque response when maximum torque is developed only at high speeds.

Because of this, many of the 1955 engines have been deliberately tuned to produce maximum torque at the low end. Moreover, valve timing has been arranged in such fashion as to produce a relatively "flat" torque curve. This is done to prevent a falling off of torque as gear changes occur.

Engineers have learned that the only way to get the most torque out of an engine is by making its displacement larger. When V-8's first entered the picture a few years back, it was assumed that a basic

bore and stroke could be retained without change and horsepower boosted in big steps by other means such as better breathing, higher speeds, increased compression ratio, etc. But when the heat was on torque, they found that displacement had to be increased if torque was to step up in proportion with increased horsepower ratings.

As a matter of fact, that's exactly what has been done on a number of existing engines. If you compare displacement (cu.in.) this year with the displacement of the same engines last year or 1953, you will find that it has gone up. Not all engines have done this but many have. Moreover, several of the engines new in 1955 have bigger displacement than engines of corresponding horsepower introduced a few years ago.

Torque, as the major factor in car performance, is not a new idea. It is new only because it is being emphasized and recognized as a safety and sales feature. A number of car makers will be plugging it this year; most of the industry will follow suit as time goes on.

Coming your way!

NEW PROFITS!

WATCH FOR THE
TOLEDO STEEL
NEW PRODUCT ANNOUNCEMENT

Coming Soon!

TOLEDO STEEL

insist on frenchtown insulators

... heart
of the
spark plug!



► Year after year, more than 12,000,000 spark plug insulators are shipped from the kilns at FRENCHTOWN to spark plug manufacturers all over the nation.

As the world's largest *independent* producer of spark plug porcelains since 1914, there are many reasons for the widespread acceptance of FRENCHTOWN products. Quality control is one.

For example, *every* FRENCHTOWN insulator is subjected to a rigid dielectric test (30,000 volts at 1.5 megacycles) . . . *every* insulator must pass an exacting surface inspection before and after glazing. These and other quality control measures which extend throughout all manufacturing processes help give FRENCHTOWN porcelain products the excellent dielectric and mechanical strength so essential in high voltage insulation.

Your best assurance of customer satisfaction is to be sure that the spark plugs you sell are made with FRENCHTOWN insulators. They are used by more spark plug manufacturers than those of any other independent maker of insulators.

frenchtown PORCELAIN COMPANY

80 MUIRHEAD AVENUE | TRENTON 9, NEW JERSEY

Kaiser-Willys Continued from Page 55

familiar Jeep include a streamlined hood, contoured fenders, and a larger windshield.

Roomier, more comfortable seats have been installed in both the front and rear. A new top which is easier to install and remove, has been provided this year along with new improved side curtains.

Other features, new this year, include a back-lighted instrument

cluster, in full view of the driver; passenger car type handbrake with more powerful grip; passenger safety rail which provides additional comfort and security for front seat passengers; a glove compartment, and wide fenders of improved design which afford passengers greater protection from splashing mud and water.

The 1955 Jeep is nearly three

inches wider. Its wheelbase is 81 inches, one inch longer than last year's Jeep. Its carrying capacity has been increased by four square feet.

The Jeep is powered by a 75 horsepower, four-cylinder F-head Hurricane engine which was adopted recently as standard for the Willys-made vehicle.

Travel & Car Show Set for the Garden

Foreign and domestic Travel organizations and automobile manufacturers have combined their efforts to present a Universal Travel & Auto Sports Show at Madison Sq. Garden from February 20th through February 27, 1955.

Vice Admiral Patrick N. L. Beltinger, honorary chairman for the annual event, announced that a number of specially hand-crafted models of American and European automobiles will make their initial appearance at the Garden Show. Other attractions will include a Dutch diesel-powered car, an advanced model of a car that flies, and several three-wheeled cars, one of which is being readied for American production.

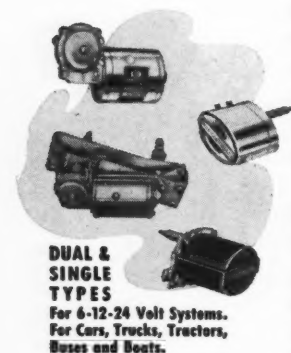


TAKE THE BLIND SPOTS OUT OF BAD WEATHER DRIVING

**with AMERICAN BOSCH
CONSTANT ELECTRIC ACTION
WINDSHIELD WIPERS**

The National Safety Council says—"Safe Driving Depends on Good Vision . . . Keep Windshields Clean." American Bosch Electric Windshield Wipers assure this **CONSTANT GOOD VISION** in bad weather. Independent of engine vacuum, speed or load, on upgrades or during acceleration, they *always* function *steadily*!

Dual and Single types, including new models that operate large-size arms and blades up to 20" in length. Heavy-duty American Bosch construction guarantees years of trouble-free service. In wide use as original equipment, these Electric Wipers are today's positive answer to good vision in bad weather. That's why they spell Sales action for you! Write now for details. American Bosch, Springfield 7, Mass.



AMERICAN BOSCH



★ ONE OF THE 1955 PARADE OF NEW "OK" PRODUCTS ★



Just... **SHAKE IT**
NO HARD SETTLING!



LOAD IT ON
DRIES THROUGH FAST!



SAND IT
WON'T GUM PAPER!



NEW OPEX® "SPEED-FILL" PRIMER-SURFACER

- ★ **FASTER TO USE**—won't settle hard, even overnight!
- ★ **FASTER SANDING**—wet or dry—without gumming
- ★ **MORE BUILD** with less thinner

**Ask about all these
5 new star performers!**

- ★ NEW OPEX "SPEED-FILL"® PRIMER-SURFACER
- ★ NEW KEM® RED OXIDE PRIMER
- ★ NEW KEM "FLO-GLO"® REDUCER
- ★ NEW OPEX "POTENT"® LACQUER THINNER
- ★ NEW OPEX "SPOT-SOLV"® LACQUER REMOVER *Trade-Mark

saves time three ways!

No more time lost getting hard-settled primer-surfacer ready to spray! New Opex "SPEED-FILL" *stays* soft—is ready to go in the morning with just a few shakes of the gun.

Saves time, too, two other ways. Quick flash-off gives you extremely fast drying, even when it's loaded on, fast and heavy. And it sands faster, too, either wet or dry, without gumming. "SPEED-FILL" Surfacer gives you fast-filling quality with a *minimum* of shrinkage and better protection against blistering under abnormal weather conditions.

Join the parade that's cashing in on this important new product in the Sherwin-Williams 1955 "OK Parade of Products"! Call your OK Jobber—try it today! The Sherwin-Williams Co., Automotive Division, Cleveland 1, Ohio.

SHERWIN-WILLIAMS
AUTOMOTIVE FINISHES



Jaguar Continued from Page 56

ster, a convertible and a hardtop coupe. The XK-140 line comes in standard, "M" and "MC" models.

The following are the outstanding features of each model:

XK-140 Super Sports

Roadster — 2-seater with all weather body. 190 hp.

Roadster "M"—As above with special crankshaft damper, wire wheels, twin exhausts, 2 fog lamps and windshield washers. 190 hp.

Roadster "MC"—As above with "C" type cylinder head. 210 hp.

Coupe—2-3 seater. 190 hp.

Coupe "M"—As above with special crankshaft damper, wire wheels, twin exhausts, fog lamps

and windshield washers. 190 hp.

Coupe "MC"—As above but with "C" type cylinder head. 210 hp.

Convertible—2-seater plus seats for two children. 190 hp.

Convertible "M"—As above with special crankshaft damper, wire wheels, twin exhausts, fog lamps and windshield washers. 190 hp.

Convertible "MC"—As above but with "C" type cylinder head. 210 hp.

Mark VII "M" Sedan

Conventional transmission. 190 hp; or,

As above with Laycock de Normanville overdrive; or,

As above with Borg-Warner automatic transmission.

Members of Hoover Subcommittee Named

The Automotive Parts and Sales Subcommittee of the Hoover Commission Task Force on Paperwork Management was recently appointed. The selections were announced by Rear Admiral Frederick J. Bell, USN (Ret.), subcommittee chairman and executive vice president of the National Automobile Dealers Association.

The appointees are: R. L. Breeden, Breeden Motor Co., Roanoke, Va.; R. Chenowith, Jarman Motors, Inc., Baltimore, Md.; J. F. Cousins, Controller, NADA, Wash., D. C.; C. Kelly, Western Auto Supply Co., Kansas City, Mo.; W. W. Marsh, Ex. Sec., Nat'l Assoc. Ind. Tire Dealers, Inc., Wash., D. C.; Ray Miles, Mid-Town Motor Co., Norfolk, Va.; E. A. Sahli, Sahli Motor, Inc., Beaver Falls, Pa.; A. L. Sinclair, Jr., Haley's Inc., Wash., D. C.; Foster W. Talbott, Talbott Motor Co., Inc., Baltimore, Md.; P. L. Tracy, Firestone Steel Products Co., Akron, Ohio, representing L. A. Frese, The Firestone Tire and Rubber Co., Akron, Ohio; N. E. O'Brien, O'Brien & Rohall, Inc., Arlington, Va.

About 11 per cent of car owners in the U. S. have more than one car.

DON'T OVERLOOK
Aero-Seals!

● Giraffes are up in the air over *everything!* But AERO-SEAL Hose Clamps are recognized by down-to-earth car owners and mechanics alike as the one quality hose clamp that holds tight — even under toughest vibration! Miracle precision worm gear drive won't let an AERO-SEAL shake loose, yet allows easy installation-removal with a screwdriver for continuous usage!

Car owners appreciate the long life of the corrosion-resistant stainless steel band... its even pressure will never pinch or damage hose. Remember, it's not discount but demand that means faster turnover, bigger profits for you. Don't get stuck with imitations! Stick with **QUALITY**... feature genuine AERO-SEAL Hose Clamps! See Your Jobber!

PRECISION WORM DRIVE
AERO-SEAL HOSE CLAMPS

ANOTHER **BREEZE MARK** PRODUCT

BREEZE CORPORATIONS, INC. 700 Liberty Avenue, Union, N. J.

Early this spring, millions of motorists will
read this statement of Purolator principles... STOCK NOW!

Why more car makers specify Purolator Oil Filters than any other brand

Bonus for your customers

Best by every test

TODAY'S Purolator*—the first and finest oil filter—is up to ten times more efficient than ordinary types. It is preferred for use on more makes of cars than any other filter—because it provides unequalled protection against abrasive road dust, hard carbon, metal particles and sludge that damage delicate engine parts. Developed by the originator of automotive oil filters, the Purolator Micronic* is backed by 32 years of research and experience. It is the best engineered, most effective oil filter you can use—for greater savings and fewer repairs. Insist on a genuine Purolator—there are types for every make of car. For best results—tell your service man to change it at least every 5,000 miles.

*Often imitated
never equalled*

*MORE
motorists
will demand
Purolators*

*More
motorists
will demand
more
Purolators*

PurOlator

America's No. 1 Oil Filter

*Reg. U. S. Pat. Off.

New G-E *All-Weather* Headlamp rain, snow—makes every car a

WITH PRESENT HEADLAMPS



ABOVE: PHOTO TAKEN WITH LIGHT FROM REGULAR HEADLAMPS. MAN CHANGING TIRE IS ALMOST HIDDEN BY GLARE OF HEADLAMPS REFLECTED FROM FOG.
BELOW: IDENTICAL SCENE WITH G-E *All-Weather* HEADLAMPS. GLARE IS CUT, MAN CHANGING TIRE IS CLEARLY DEFINED, EASILY SEEN.

WITH NEW G-E HEADLAMPS



IN THESE DEMONSTRATION PHOTOS, taken in G-E's headlamp research laboratory, simulated fog shows what happens when you drive in bad weather. Ordinary headlamps (top photo) send part of their light upward. Fog, snow, rain reflect it back at the driver as glare. New G-E *All-Weather* headlamps (bottom photo) keep most of the light below the driver's line of vision, greatly reduce kick-back glare to help him see the road ahead.

These new 6 and 12-volt G-E headlamps mean outstanding safety performance in good weather as well as in bad. The new 6-volt *All-Weather* headlamp has a new, more efficient filament and increased wattage. Its low beam makes it easier to see the road when you're bucking oncoming headlamps. It gives about 25% more light—and concentrates it where you need it, up to 80 feet farther ahead on the right side of the road.

The new *All-Weather* high beam also gives about 25% more

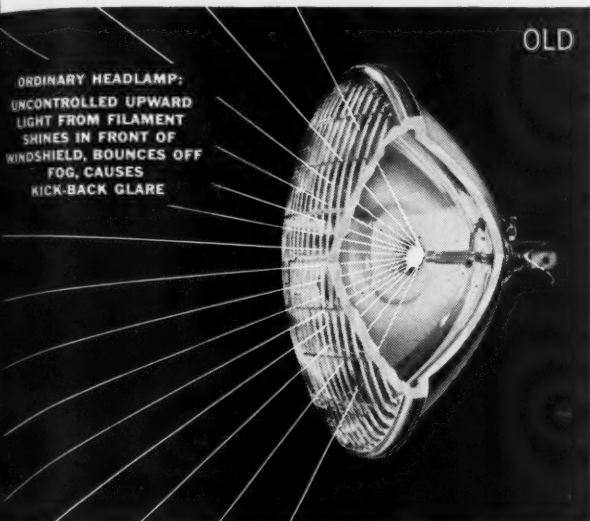
light than regular 6-volt headlamps. You see pedestrians, twists in the road and obstacles sooner—and clearer.

G-E *All-Weather* headlamps fit all cars equipped with sealed beam headlamps. The American Association of Motor Vehicle Administrators, which originally made the request for an improved headlamp, has unanimously endorsed the new-type lamp and has urged all states to adopt it.

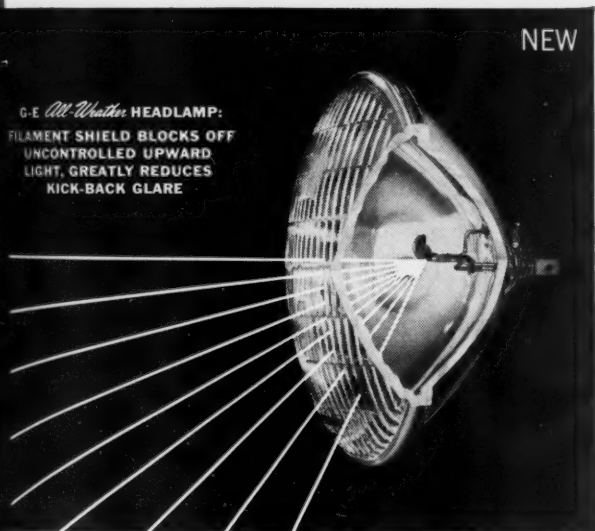
Most states have already given their approval. Approvals are now pending in these states: Iowa, Kansas, Missouri, Washington, West Virginia.

General Electric's advertising will feature the new *All-Weather* headlamp on the Jane Froman TV show and in national magazines such as "Life" throughout 1955. This powerful advertising will create a tremendous demand for G-E *All-Weather* headlamps. Don't be caught short! Order plenty now!

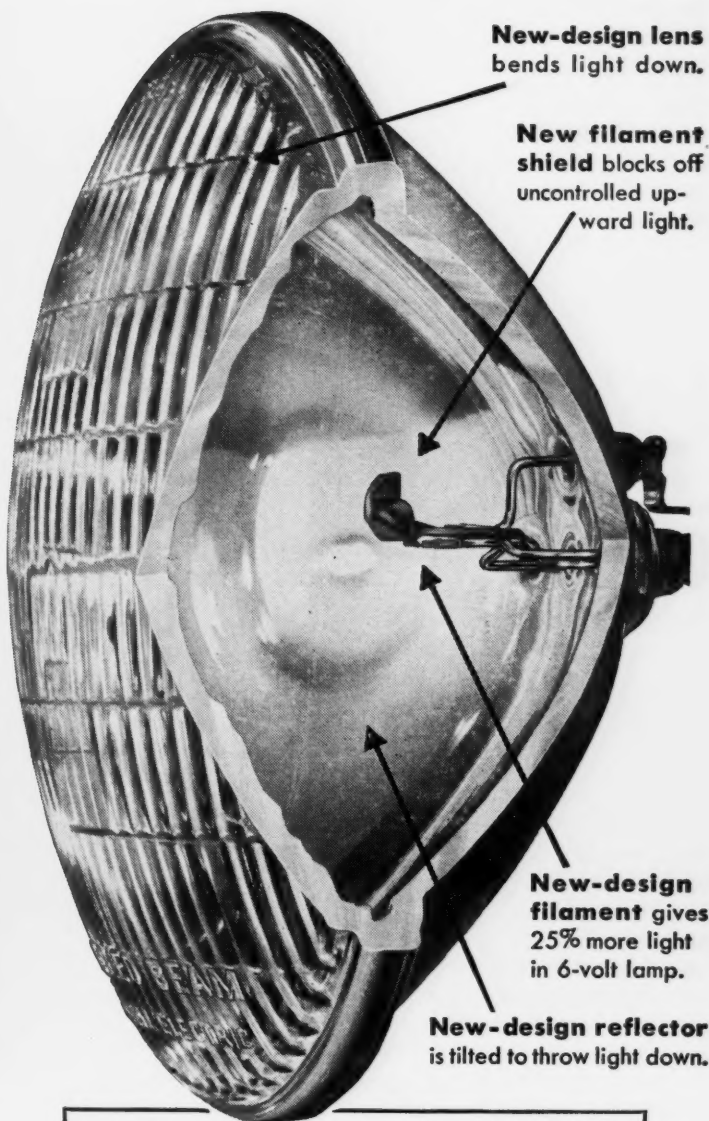
helps drivers see through fog, prospect for 2 new headlamps



ABOVE: HOW REGULAR HEADLAMPS CAUSE FOG-GLARE.
BELOW: HOW G-E *All-Weather* HEADLAMPS CUT DOWN GLARE.



NEW GENERAL ELECTRIC *All-Weather* LOW BEAM LIGHTS RIGHT SIDE OF ROAD BETTER. MAKES IT EASIER TO SEE WHEN YOU'RE APPROACHING OTHER CARS.



Order your supply NOW!

Lamp No.	Voltage	List Price	Case Quantity
5040	6	\$1.80	8
5400	12	\$1.90	8

A combination pack of six 6-volt and two 12-volt lamps is also available.

Progress Is Our Most Important Product

GENERAL  ELECTRIC

Your Formula for Increased Business!



NEW FORMULA

GIVES GREATER PROTECTION AGAINST

- * Valve Lifter Sticking
- * Acid Corrosion
- * Sludge and Wear
- * Dirty Engines
- * Excessive Oil Consumption

A product of Kendall Research, its quality starts with 100% Bradford Pennsylvania Crude Oil — world's richest, and continues with advanced refining processes, plus selected additives. Creates customer satisfaction and keeps them coming back to you.

KENDALL REFINING COMPANY
BRADFORD, PENNA.

Hoosier know how

Continued from Page 82

been connected with rural electric power, a vast new market for electric appliances has come into being. That's why Culp began selling freezers, washing machines, home dryers, refrigerators, hot water heaters, radios, TV sets and other electrical items.

Sell Safety Service

In discussing merchandising methods with Ray Grogg, head mechanic, Grogg explained that highway safety is the best inducement in having repair work done. For example, the wheel alignment apparatus plays an important part in this program. By demonstration this machine shows the customer when any maladjustments in the steering mechanism show up. The customer can see the need for adjustments and replacements of defective parts, and promptly orders corrections. He does not object to paying the inspection charge of \$2.00 or the cost of \$7.50 for the entire job.

This operation leads to other important replacement sales, such as recapping a worn tire, fixing a blow out, or the sale of new tires, as each individual case seems necessary. Brake lining jobs begin with inspection also. Here again demonstrations usually result in sales.

While there are five drive-in service stations in the passenger car repair department, there are four other drive-in stations for handling truck service in another part of the building. In this department most of the units brought in for maintenance service are comprised of milk trucks, feed trucks, and other farm commercial vehicles. In the matter of maintaining profits in all service departments, the company finds that first class shop equipment speeds up completion of these jobs in the shortest possible time. Fast service counts a lot in keeping customers happy. These methods eliminate errors, enable the organization to do the job at lower prices and sustain profits.



Cutaway Shows

LEE Bead Breaker loosens both beads simultaneously in one operation... using no other tools...with wheel on the car, on the ground, or on a tire changer... and air power does all the work.



LEE End Lift wherever a lift is needed

The original and best. Air power lifts either end of a car to 53", automatic safety latch... 3000 lb. cap.



Write for Bulletin 201

AUTOMOTIVE EQUIPMENT MFG. CO.

11000 SO. ALAMEDA STREET
LYNWOOD, CALIFORNIA

No need to turn down
Hydra-Matic service profits...



75% of all Hydra-Matic service jobs are *Reg. T. M. of G. M. Corp. SIMPLE EXTERNAL ADJUSTMENTS!



Checking transmission oil pressure

Installing rear bearing oil seal

Adjusting servo band externally

Adjust front servo band internally

Adjust rear servo band internally

Refilling transmission with fluid

Correct throttle linkage adjustment

Check alignment of throttle lever

Adjusting throttle lever alignment

**Now you can perform
these profitable operations
with a new, low-cost**

**KENT-MOORE
RATE-MAKER
SERVICE TOOL KIT**



Imagine being able to correct 75% of all Hydra-Matic service problems simply by making a few quick, easy external adjustments! Imagine, too, being able now to buy *all* the genuine Kent-Moore Rate-Maker Tools required to perform these profitable operations in a special new kit costing less than \$100.00! Sound like a good deal? It is! What's more, it also includes thorough training in the use of the tools plus special promotional materials designed to help you sell *your* Hydra-Matic Service. So why wait? Call your local Kent-Moore jobber... order your Rate-Maker tools today!

KENT-MOORE ORGANIZATION, INC.

Engineers and Manufacturers of Special Automotive Service Tools and Equipment
5-105 GENERAL MOTORS BUILDING • DETROIT 2, MICHIGAN

Social Security Continued from Page 79

children all along, if she had only known.

This article is designed to reduce the number of such instances, and also to help families plan more intelligently for their future.

Because the Act covers so vast a number of people and must deal with so many different situations, it is impossible, because of space

limitations, to cover all phases of the program in detail. Any questions you may have should be taken up with your local social security district office.

What It Is

It is a Federal program which provides two different kinds of insurance, (1) retirement insurance

for working people who retire at 65 or later, or at age 72 whether or not the person retires, and (2) survivors insurance for the dependents of working people who die.

Who Pays For It

During their working years, employees and self-employed people whose work is covered by the program make contributions toward this protection for themselves and their families. At the present time and up until 1960, the social security contribution on wages is two per cent each, for employee and employer, on earnings up to \$4,200 a year. Prior to January 1, 1955, the maximum taxable earnings for any one person was \$3,600 a year. The self-employed person pays three per cent on his own net earnings up to \$4,200 a year. The self-employed person must report his earnings and pay his contributions each year when he files his individual income tax return with the Director of Internal Revenue.

Who is Covered By the Program

Originally, coverage of the program was limited to people who worked as employees in commerce and industry. Commencing on January 1, 1951, coverage was extended to take in most businesses and trades, people who work for themselves, such as independent repair shop operators and car dealers. Starting on January 1, 1955, coverage was further extended.

Becoming Insured

To qualify for monthly payments when you reach 65 and retire, or to make payments possible for your survivors in case of your death, you must have been in work covered by the social security law for a certain length of time. The amount of work required is measured in "quarters of coverage." A quarter of coverage, in a general way, corresponds with a calendar quarter of work. A calendar quarter is a three-month period beginning January 1, April 1, July 1, and October 1. The exact meaning of a quarter of coverage is different, however, for certain different kinds of work.

A. You get 4 quarters of coverage for a year in which you have \$400 or more in net



**MODEL 3000
SAFE-TURN DRUM LATHE**

PAT'S ONE STOP SERVICE, INC.
Oceanside, N.Y.

"...never any doubt as to perfect results."
"...we have eliminated the need for free readjustments."

MODEL 2000 SAFE-ARC SHOE GRINDER

BIENER PONTIAC, INC. Great Neck, N.Y.

"...speed has resulted in a reduction of 50% labor costs."

ACE BRAKE SERVICE North Hollywood, Calif.

"After looking at all the Drum Lathes on the market, we chose Ammco. Our decision was justified."

BURGER'S GARAGE Robstown, Texas

"...the new Infimatic Feed allows speed and accuracy such as I have never before seen."

TIRE SERVICE AND SUPPLY CO. Aurora, Colo.

"The combination of the SAFE-TURN and the SAFE-ARC make a fast production, high precision combination that can't be beat."

HAROLD'S GARAGE Hollywood, Calif.

"This equipment is an investment instead of an expense."

MACNEILL & BATTI East Bridgewater, Mass.

"Speed, simplicity of operation and most of all RUGGEDNESS have been incorporated in the design of this equipment."

ASK YOUR JOBBER FOR A FREE DEMONSTRATION IN YOUR OWN SHOP
AMMCO TOOLS, INC. 2102 Commonwealth Ave., North Chicago, Illinois

earnings from self-employment.

- B. After 1954, you get 1 quarter of coverage for each \$100 of wages paid to you in a year as a farm employee (but no more than 4 in a year).
- C. For all other kinds of employment and for regular farm work before 1955, you get 1 quarter of coverage for each calendar quarter in which you are paid \$50 or more in wages.
- D. You can also earn quarters of coverage through railroad employment and active military service.

You may have earned quarters of coverage by working as an employee at any time after 1936 and by self-employment after 1950.

The number of quarters of coverage you have is used only in determining whether or not a payment can be made. The amount of the payment is figured from your average monthly earnings.

Fully Insured

You will be fully insured when you reach 65 or when you die, if you have at least one quarter of coverage for each two calendar quarters that have passed after 1950, or since you reached age twenty-one, whichever is later. At least "six quarters of coverage" are necessary in any case. Once you have acquired forty quarters of coverage (10 full years), you will be permanently insured for life.

Currently Insured

You will be currently insured when you become entitled to retirement payments or at your death, if you have at least six quarters of coverage within the preceding three years.

Amount of Benefits

The amount of your old-age insurance benefit is determined from your average monthly earnings over a certain period of time. Payments to your dependents and to your survivors are figured from the amount of your benefit. The period of time over which your average earnings are figured can start with January 1, 1937, or with January 1, 1951. (Your average

can also be figured starting with the year in which you became 22 years of age.) Most people will receive higher benefits under the formula given in the 1954 amendments, using average months after 1950. It is not necessary for you to select which method will be used to figure your payments. When you make your application for payments, the Social Security Administration will figure the benefit in all ways and will pay the highest possible benefit.

Estimating Benefits on Earnings

To estimate your payments under the 1954 benefit formula, you must first estimate your average monthly earnings from January 1, 1951, up to the year in which you reach age 65. In case of death, the average earnings are also figured up to the year in which death occurs.

In figuring your average earnings after 1950, you can drop out up to four calendar years after
(Continued on page 146)

YES!

There's a Double-Duty
(6 and 12 volt)

Silver Beauty made for you

Silver Beauty



Whether you need a 2 amp. slow charger or a 75 amp. fast charger—or something somewhere in between—Silver Beauty has a model specially designed to handle the job for you in the best and quickest way. Yes! Now you can get a lifetime-dependable Silver Beauty Charger for both 6 and 12 volt batteries in a size for every need and use—auto, truck, marine, or farm. See your jobber for details.

WRITE FOR FREE CATALOG



TRIPLE A SPECIALTY COMPANY • CHICAGO 12, ILL.

1950 in which your earnings were lowest, or in which you had no earnings at all. If you have at least 20 quarters (5 years) of covered work acquired at any time, you can leave out one more calendar year of your lowest earnings. After the drop out of low years, the average monthly earnings are figured by dividing the total earnings in the

remaining period by the months in that period; however, if fewer than 18 months are left, you must divide by 18. Earnings for the year in which you apply for benefits are not included in the original computation. If they would increase your benefit, you may ask after the end of the year to have the benefit refigured to include them.

Earnings up to \$3600 a year can be counted toward social security for the years 1951 through 1954, and up to \$4200 for 1955 and later years. Under the formula given in the 1954 amendments, the amount of your old-age insurance benefit is 55% of the first \$110 of your average monthly earnings since 1950, plus 20% of the next \$240.

If You Become Disabled

The Social Security Law now protects the old-age and survivors insurance rights of people who have had a certain amount of work covered by social security and have since become totally disabled for work. If you have been totally disabled for six months or longer, and the disability is expected to be of long-continued and indefinite duration, you can apply to have your earnings record "frozen." When your earnings record is frozen, the period in which you are totally disabled and have low earnings or no earnings need not be counted in figuring your average earnings, or in determining the amount of work you need to be eligible for payments. It will be easier for you to qualify for benefits, and the amount of your benefits after you reach 65, or the amount of your family's benefits in case of your death will be larger. The law does not provide cash disability payments, but protects the old-age and survivors insurance rights of the disabled person. If you have been totally disabled six months or longer, you should get in touch with your nearest social security office in order to determine whether you can qualify for the disability freeze.

When Payments Stop

Beginning with 1955, the conditions under which monthly benefits can be paid while you are working are changed. The same earnings test will apply to both employed and self-employed people. Beginning January 1, 1955, a beneficiary (retired worker, dependent, or survivor) under age 72 can be paid old-age and survivors insurance checks for each month of the year if his earnings during the year are not more than \$1200. Gross wages (not just take-home

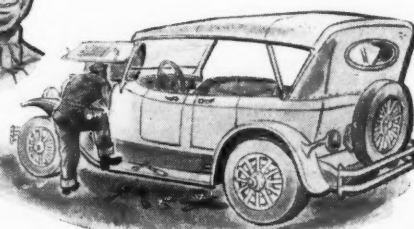
(Continued on page 153)

WHAT HAPPENED

TO THE "GREASE-MONKEY" OF 30 YEARS AGO?

How about that guy in the greasy shirt, the baggy coveralls loaded with dirt; whose tools were a Stillson wrench and a hope, who had worked on Winton, Jordan and Pope? He set our points with an old "thin dime" "fixed" any engine in record time; by guess and by gosh, without reason or rhyme. But it still ran "rough" and it wouldn't "climb"—wouldn't start in cold weather without a gas "prime" Where is this joker from out of our past?

(About 1930 we saw him last.)



Why, he's gone the way of the Stevens-Duryea, the "one-man" top and the one-hoss shay, replaced by the man we know today as a SERVICE EXPERT who "knows his way" in a shop filled with modern equipment—and, say, that brings us to the point we want to make:

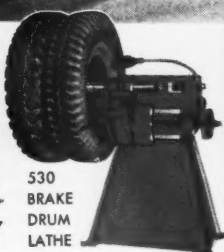
There's no place in the automotive service business today for haphazard methods or out-dated, second-rate equipment. That's why you'll find more Service Experts in the TOP SHOPS demanding Lempco's Precision Machine Tools—made by a machine tool builder to the most exacting precision specifications in the Industry.

LEMPCO PRODUCTS, INC.
BEDFORD, OHIO

Lempco builds the most complete line of Crankshaft Grinders in America



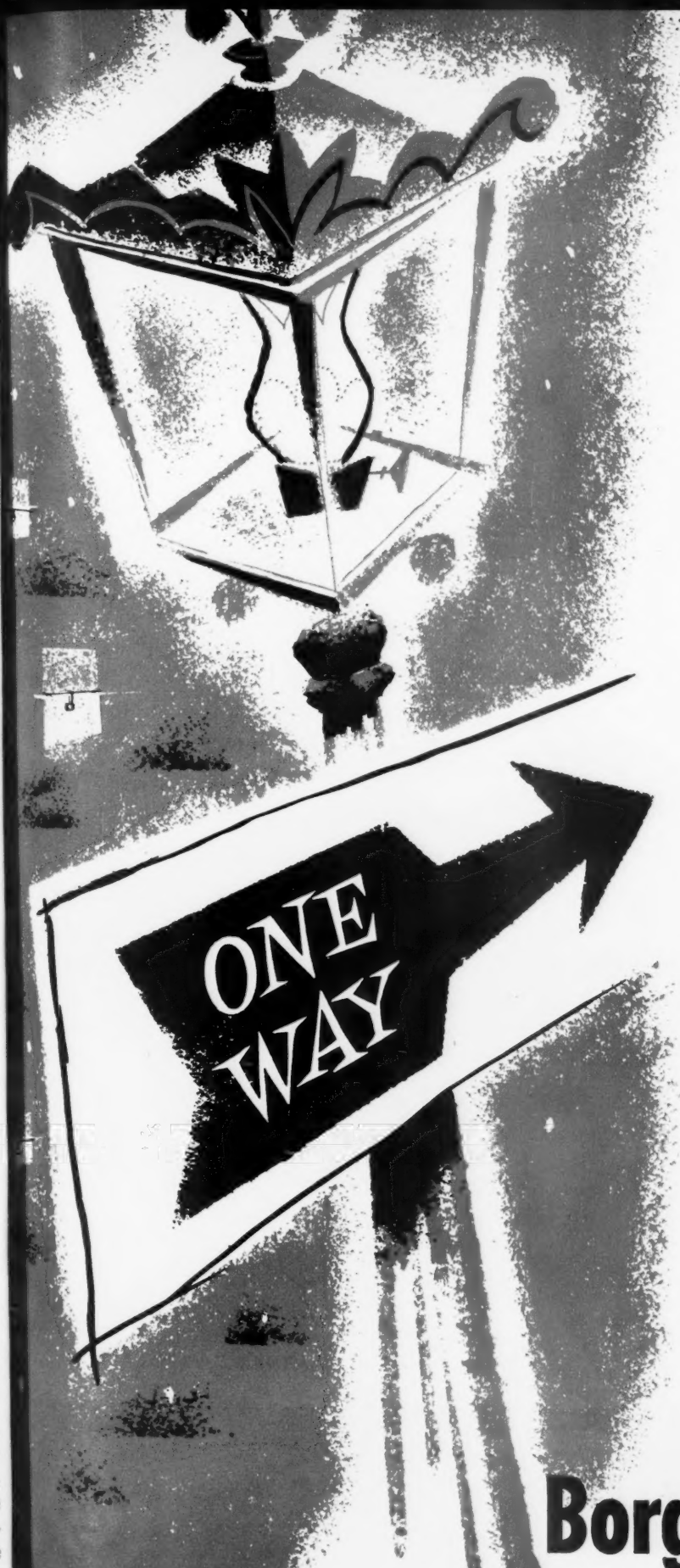
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530
BRAKE
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for 35 years... a leading
builder of machine tools.



**"The automotive industry
knows but one way to go—
and that's ahead!"**

Roy C. Ingersoll
President

BORG-WARNER CORPORATION

Borg-Warner



THESE UNITS FORM BORG-WARNER, Executive Offices, Chicago: ATKINS SAW • BORG & BECK • BORG-WARNER INTERNATIONAL
BORG-WARNER SERVICE PARTS • CALUMET STEEL • DETROIT GEAR • FRANKLIN STEEL • HYDRALINE PRODUCTS • INGERSOLL PRODUCTS
INGERSOLL STEEL • LONG MANUFACTURING • LONG MANUFACTURING CO., LTD. • MARBON • MARVEL-SCHEBLER PRODUCTS • MECHANICS
UNIVERSAL JOINT • MORSE CHAIN • MORSE CHAIN CO., LTD. • NORGE • PESCO PRODUCTS • REFLECTAL CORP. • ROCKFORD CLUTCH • SPRING
DIVISION • WARNER AUTOMOTIVE PARTS • WARNER GEAR • WARNER GEAR CO., LTD. • WAUSAU • WESTON HYDRAULIC • WOOSTER DIVISION



one way... ahead

The history of the automotive industry is one of dynamic and continuing progress. Since the days of the "horseless carriage" each year's new models have been marked with exciting advancements in design, engineering, production and performance.

Yet the accomplishments of the past are simply a promise of future achievement . . . because the automotive industry knows but one way to go—and that's ahead.

Borg-Warner is proud of its part in the industry's growth . . . proud of its contributions to automotive safety, performance, economy and value through creative engineering and volume production of essential parts.

"Design it better—make it better" is the guiding principle of Borg-Warner. It is at once our challenge, and our pledge to the automotive industry.

Roy C. Ingersoll
President

BORG-WARNER CORPORATION

MILESTONES ALONG THE WAY

1900—The old time mixing valve was replaced by SCHEBLER carburetors.

1903—Radiators made of copper tubing with attached cooling fins introduced by LONG.

1913—The single plate clutch was developed by BORG & BECK, and silent timing chains were introduced by MORSE CHAIN.

1916—Universal joints were developed by MECHANICS.

1921—First standard type transmissions were introduced by WARNER GEAR.

1922—Double plate clutches were introduced by LONG.

1923—Multiple spring clutches were developed by ROCKFORD.

1924—Vibration dampening flexible center clutches introduced by BORG & BECK.

1930—Transmission synchronizer units produced by WARNER GEAR.

1931—Free wheeling was introduced to the industry by WARNER GEAR.

1934—Automatic overdrives for transmissions were introduced by WARNER GEAR.

1938—Borglite and Torbend clutch plates were introduced by BORG & BECK, LONG and ROCKFORD.

1949—Simpler, finer, more efficient automatic transmissions were introduced by DETROIT GEAR and WARNER GEAR.

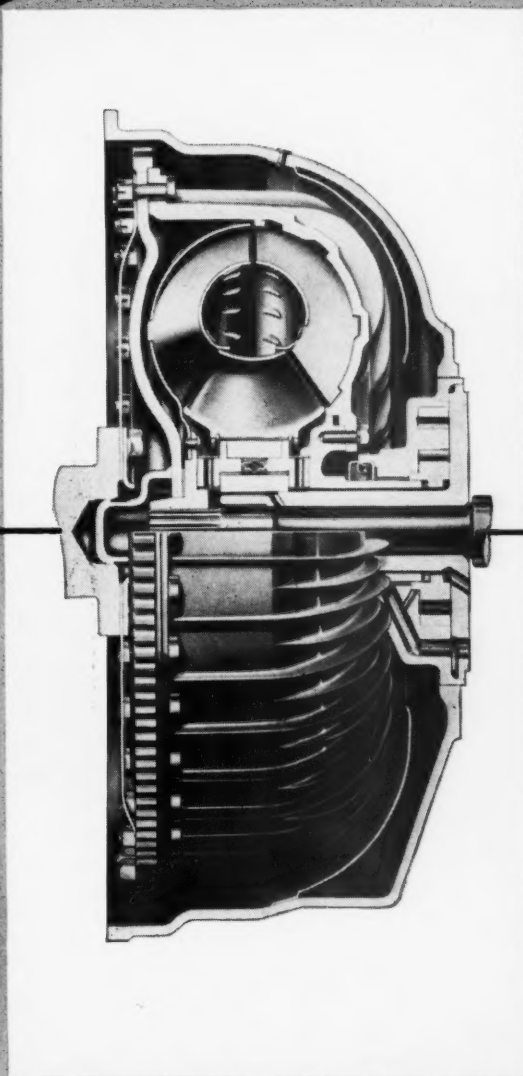
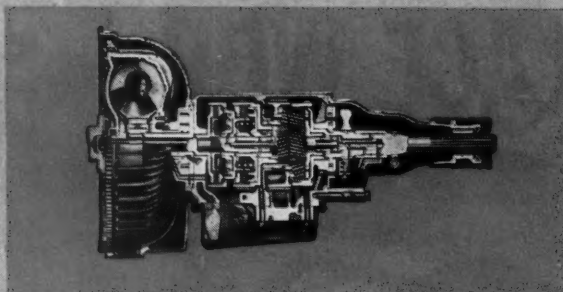
1952—LP-Gas carburetion systems developed by MARVEL-SCHEBLER.

1953—Passenger car power brakes developed by MARVEL-SCHEBLER.



the new
BORG & BECK
TORQUE
CONVERTER

used in Fordomatic and Merc-O-Matic transmissions



An air-cooled Torque Converter of unique design with steel blades assembled in die-cast aluminum Impeller whose 68 fins provide swift cooling.

The Turbine is made of steel stampings and the Stator is aluminum. Its One-Way 20 sprag clutch is Borg-Warner's well-proved design.

Light in weight, with a torque ratio of 2.1:1, it has excellent efficiency, yet it can be readily disassembled in the field for inspection or repair.

BORG & BECK DIVISION

BORG - WARNER CORPORATION

Chicago 38, Illinois



REPLACE WORN CHAIN



with

MORSE TIMING CHAINS

*the original
equipment line*

Quiet

Smooth

Dependable

Accurate

There are good profits for you in precision-built Morse Timing Chains—the line used as original equipment on eleven of the thirteen cars using timing drives today.

There are good profits, but no handling headaches. All Morse Timing Chains in excellent availability for quick delivery on your orders. All chains attractively boxed; all boxes plainly marked for quick spotting, neat storage on shelves, easy inventory. Heavy stocks warehoused in principal cities.

MORSE

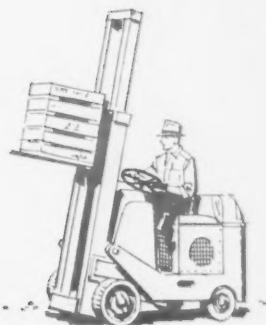


MECHANICAL
POWER TRANSMISSION
PRODUCTS

Distributed in U.S.A. through Borg-Warner
Service Parts Corp., 310 Michigan Ave.,
Chicago 4, Ill.

Distributed overseas through Borg-Warner
International Corp., 79 E. Adams St.,
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MORSE CHAIN COMPANY



F*ine* performance
is combined with
low cost in the
Long Torque Converter

*Over Fifty Years
of Quality
Manufacturing for
the Automotive Industry*



LONG MANUFACTURING DIVISION Borg-Warner Corporation **DETROIT 12, and WINDSOR, ONT.**

Chilton's MOTOR AGE, JANUARY, 1955

21 of the 28 Divisions of Borg-Warner Serve the Automotive Industry

BORG & BECK—clutches and torque converters for passenger cars, trucks and tractors.

BORG-WARNER INTERNATIONAL—export sales of automotive parts.

BORG-WARNER SERVICE PARTS—U. S. distribution of automotive service parts.

CALUMET STEEL—special automobile jack bar steel; small angles for auto seats.

DETROIT GEAR—automatic transmissions for passenger cars and trucks; truck, tractor and bus transmissions; gears and precision parts for passenger cars, trucks, tractors and aircraft.

FRANKLIN STEEL—special automobile jack bar steel; spring steel bumper supports; small angles for auto seats.

INGERSOLL PRODUCTS—tapered steel discs for truck wheels; automotive stampings; bumper and stabilizer bars.

INGERSOLL STEEL—automotive and tractor clutch discs; carbon electric steel for tank clutch plates; high carbon and alloy steel sheets; stainless and stainless-clad sheets and armor plate.

LONG MANUFACTURING—clutches and radiators for passenger cars, trucks, buses and tractors; torque converters; oil coolers for the automotive industry.

LONG MANUFACTURING CO., LTD. (Canada)—Clutches and radiators for passenger cars, trucks, buses and tractors; oil coolers for the automotive industry.

MARBON—adhesives for bonding rubber and synthetic rubber to metal and other materials (trade name Ty-Ply).

MARVEL-SCHIEBLER PRODUCTS—carburetors for military and industrial equipment and farm tractors; LPG carburetion systems; power brakes for passenger cars and trucks.

MECHANICS UNIVERSAL JOINT—universal joints and propeller shafts for passenger cars, trucks, buses, aircraft, farm machinery, tractors, road machinery and mining machinery.

MORSE CHAIN—automotive timing chains and sprockets.

MORSE CHAIN CO., LTD. (England)—Automotive timing chains and sprockets.

PESCO PRODUCTS—electric driven and engine driven hydraulic pumps; valves and electric motors for agricultural and industrial use.

ROCKFORD CLUTCH—spring-loaded and over-center clutches for automobiles, trucks, tractors, road-building, earth-moving and oil field machinery, industrial machinery, agricultural implements, machine tools (Pullmore). Power take-off and gear reduction units for gasoline and diesel engines.

SPRING DIVISION—torque converter parts and sub-assemblies; sprag type free wheeling clutches; special clutch plates and parts for automatic transmissions; precision flat and Belleville type springs; automobile clutch and valve springs; multialide and punch press stampings, plain and heat treated; special commercial heat treating; small electric motor commutators.

WARNER AUTOMOTIVE PARTS—for replacement purposes—ring gears and pinions; differential cases; differential internal gears and spiders; axle shafts; cast iron parts; transmission gears for passenger cars, trucks and tractors; power take-offs.

WARNER GEAR—automatic transmissions for passenger cars; standard transmissions for cars, trucks, taxicabs, buses and tractors; overdrive units for passenger cars; transfer transmissions for trucks, synchronizer units for passenger cars and trucks; parking brake assemblies.

WARNER GEAR CO., LTD. (Canada)—synchronizer units for passenger cars and trucks.



Borg-Warner corporation

310 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS

pay) and net earnings from self-employment are added together to determine the number of monthly benefits that can be paid for the year.

Earnings from any source must be counted, whether or not the work is covered by social security. However, income from property, investments, company pensions, and other insurance does not affect the payments and need not be reported to the Bureau of Old-Age and Survivors Insurance. If you earn more than \$1200 in a year while you are under 72 years of age, benefits to you (and to members of your family getting checks based on your social security account) are not payable for some months of the year. Starting with January 1, 1955, benefits are payable at age 72 regardless of whether you retire or not.

Account Number Card

Every person covered by the Act should have a Social Security Account Number. Your account number distinguishes your account from the social security account of other people who have names similar to or exactly like yours. Both your name and account number are needed to make sure you get full credit for your earnings. If you are employed, show your card to each employer so that when reporting your wages he may use your name and account number exactly as they appear on the card. If you are self-employed, copy your name and account number on the schedule you use to report your net earnings for social security credit.

Your local social security office will issue you a social security card, or a duplicate card to replace one that has been lost. If there is no social security office in your town, ask at the post office for an application blank. The account number on your card is the key to your social security account. Be sure that it is reported correctly.

Household Workers

From 1951 through 1954 a person employed in a private home earned social security wage credits

only if the employee worked for an employer on 24 or more different days in a calendar quarter and was paid cash wages of \$50 or more by the employer. The new law does away with the 24-day requirement. After 1954, a domestic worker's wages from any employer for work in a private household will be covered by the law if they amount to

\$50 or more in cash in a calendar quarter.

Domestic work done on a farm operated for profit is considered farm work, and is covered by the law if the cash wages are \$100 or more in a year from an employer.

Three Times For Action

There are three times when it is especially important to consult the social security office:

1. If a disability occurs before
- (Continued on page 154)



use only
**FACTORY NEW
GENUINE
BENDIX DRIVES
and
PARTS!**



Repeat business is the foundation on which service profits are built. One of the surest ways to keep customers coming back time and time again is to use only genuine parts in your repair work. When you service Bendix* Drives, be sure to use only *factory new* Bendix Drives and Parts. Your customers will get the same dependable performance built into every original Bendix Drive—performance proven by over 100,000,000 installations. Insist on *factory new* Bendix Drives and Parts when you order from your distributor. *REG. U.S. PAT. OFF.

Bendix Drive

ECLIPSE MACHINE DIVISION of **Bendix**
ELMIRA, NEW YORK
Expert Sales: Bendix International Division, 205 East 42nd St., New York 17, New York AVIATION CORPORATION

How to pick hand tools that **BEAT THE CLOCK**

Here's why Open-Ends and Box-Types from the complete line of Blackhawk Hand Tools give you important extras that speed work and beat the clock on flat rate jobs!

Own Hexite Open-Ends with sizes **MATCHED** for automotive work.



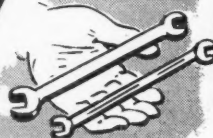
Sizes you use most are **MATED**. You save time and cut your tool investment!



Stop
Knuckle-Busting!
Get "Nut-Fit"
Box-types



Loose-fitting tool rounds the corners of nuts
Cleanly broached Blackhawk tools firmly grip sides of nuts



Get more zip —
with slimmer, trimmer, tougher tools!

Compare a Blackhawk Hexite Open-End, for example, with an ordinary open-end. Note the reduction in time-killing, tiring weight and bulk! Yet super alloys give you far greater strength. It's that way throughout this complete line of hand tools. For all your requirements — it pays to buy Blackhawk tools. They're stocked by leading jobbers.

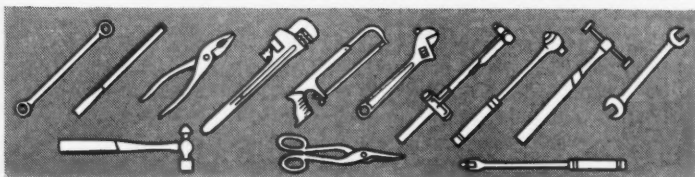


BLACKHAWK®

BLACKHAWK MFG. CO., Dept. W-615, Milwaukee 46, Wis.

NEW!

Write for free 88-page catalog on this big COMPLETE line of hand tools



Social Security . . .

Continued from Page 153

age 65 that prevents your working at all for an indefinite period of time, after you have been regularly employed in work covered by social security, get in touch with your social security office. You may wish to apply to have your earnings account frozen.

- When you are 65, get in touch with your social security office promptly for information about your social security rights. If your earnings from all types of employment are not over \$2080 a year, or if there are even a few months of the year when you do not work after you are 65 years of age, you may be eligible for some old-age insurance payments. Even though you may not be immediately eligible for benefits, it may be to your advantage to make sure you have all the information you need about your benefit rights.

When you reach age 72, you should get in touch with your social security office even if you are still fully employed. If you are insured, old-age insurance benefits are payable at age 72 after 1954 regardless of whether you are working.

- After the death of a person whose work was covered by social security, some member of his family should inquire promptly at the nearest social security office to learn if survivors insurance benefits are payable.



"This new inebriation test is wonderful! Everybody we've picked up so far has been crocked!"

Tubeless Tires Continued from Page 49

lean tire towards you. The weight of the wheel will help seat the outside bead. Give it a few quick "shots" of air. This will seat the tire beads on the bead seats. After the tire is out against the edge of the rim, replace the valve core.

Then inflate to 40 lb pressure. Check to be sure that the bead positioning rib is visibly even just above the rim flange at every point around the tire. Adjust to the recommended pressure.

Chrysler and Packard cars have a safety rim which has a second or lower ridge inside the rim. The air should be shot into the tire slower in this case so that the tire bead doesn't jam and bear on the inner ridge. For this reason, leave valve core in on all Chrysler and Packard built cars.

How to Repair Tubeless Tires

There are four methods for re-

pairing tubeless tire injuries up to 3/16 in. in diameter. The hot patch method is preferred. However, the plug method is effective for holes 1/16 to 3/16 in. in diameter. The third method is the cold patch, and the fourth method, the gun resealing method.

There may be some differences in the repair methods as recommended by the various manufacturers, and considering that a great number of products are on the markets, it is highly recommended that you adhere to the approved method stipulated by the tire manufacturer whose tire you are handling.

After the "tire and wheel assembly" has been removed from the car, check and inflate it to the recommended operating air pressure. The inflated "tire and wheel assembly" is then dipped into a water tank and slowly rotated until bubbles appear. To be

doubly sure, rotate the tire completely around to be sure all leaks are located. In most cases, the leak will be found in the tread area. Occasional leaks may occur around the bead. Rarely will a leak be found at the wheel rivet. Don't forget to check the valve core for leakage at the same time.

If a water tank isn't available, run water across the tread and watch for signs of bubbles. Once again, play safe and check all the way around at least once or twice, and check the rivets, bead and valve core.

When the leak is found, mark it with a piece of chalk so the spot can be located after the tire is dismounted.

After the tire is dismounted, locate the leak on the inside opposite the chalk mark.

Next, the tire should be thoroughly buffed with a wire brush. The injury can also be cleaned with a small hand rasp.

(Continued on page 156)

Put These NEW NUMBERS to work for you!

You know what Champ-Items do to help you "lick" tough service problems. Well, here are some new Champ-Items you will find ready to deliver more service dollars into your cash register.

ORDER FROM YOUR JOBBER



CHAMP-ITEMS, INC.

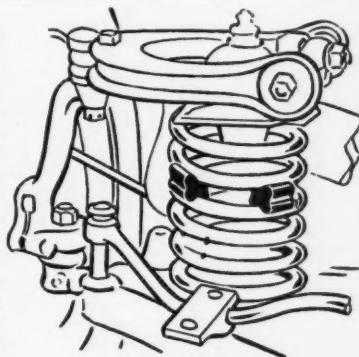
6191 Maple Ave.

St. Louis 14, Mo.

No. 112 COIL SPRING RUBBER

BOOSTER for all cars. Eight out of ten cars, have sagging coil springs and need boosters. Check your customers' cars and show them what sagging springs do to tires, to riding comfort, to performance. The Champ-Items No. 112 is a two-way-stretch booster—with two thicknesses to choose from—lengthwise for greater lift, or crosswise where minimum lift is required. Raises front end to original height. Easy to install with our installation tool (furnished free with each dealer package of 6 sets).

List \$3.00 per set of four

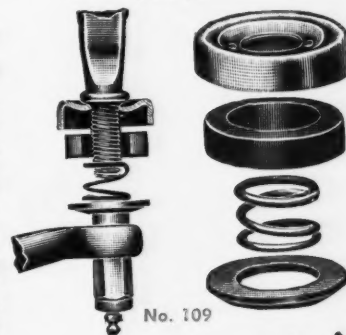


No. 112

No. 109 IDLER ARM TAKE-UP

KIT for late model cars. Provides positive steering. Eliminates road shock. Holds accurate toe-in. Provides proper tension. Eliminates idler arm noise and looseness. Easy to install.

List \$1.00 each

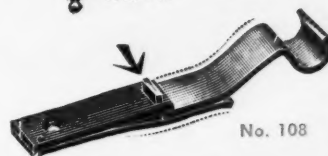


No. 109

No. 108 UNBREAKABLE DOOR

CHECK STRAP for Chevrolet 1949-52 front; Olds. 1949-51 76 & 88 series front; Olds. 1951 88A series front; and Pontiac 1949-52 front. This item overcomes a real troublesome service problem. Guaranteed for the life of the car.

List 75¢ each



No. 108

Tubeless Tires Continued from Page 155

Up to this point, the procedure is the same for three methods—hot patch, plug, and cold patch. From here on out the method of repair varies.

Cold Patch Method—Using the cold patch method and, depending entirely upon manufacturer's recommendations, the injury can be filled from the outside of the tire

with a resealing gun to fill the hole. If a resealing gun isn't available, apply rubber cement with a brush over the buffed area.

Firestone is one manufacturer that recommends the resealing gun method, and, according to their instructions, after the hole or injury has been filled, the inside of the tire around the injury

should be thoroughly cleaned with a solvent (gasoline) and then allowed to air dry.

After the area around the injury has been roughened with a wire brush or hand buffer, a tire patch of the right size is applied to the hole. Make sure that your fingers don't come into contact with the underside of the patch. Oily or damp fingers can result in a poor seal between the tire and the patch. A roller (stitching wheel) is then used to press the patch down firmly against the tire.

Once all of these steps are completed the tire can be mounted on the rim and then inflated to recommended air pressure. Recheck in the water tank to make absolutely sure that no leaks remain.

Plug Method—After the injury has been cleaned with a hand rasp, an area of 3 in. in diameter around the injury on the inside of the tire should be cleaned by light rasping or buffing.

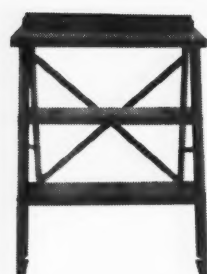
Next, wash the area, using a solvent sparingly. Apply rubber cement, allowing it to dry. The tire is prepared by wire brushing or rasping inside. Apply cement and allow it to air dry.

Dip the wire needle in cement and push it through the hole from the inside. Then apply cement to the stem of plug for a lubricant, and pull through the hole while the cement is still wet. Pull the plug into place, making sure that it is a steady continuous pull. When the plug is firmly against the inside of tire, use a stitcher to remove all air pockets.

Trim the plug so the end is slightly above the tread surface.

Hot Patch Method—After the hand rasping operation, fill the injury from the outside of tire, using the resealing gun. Thoroughly clean with solvent and permit it to dry. Then roughen the area and carefully center the hot patch over the injury. Apply special clamps as shown. Tighten the clamps, ignite the patch and allow it to cool for at least 15 minutes. Carefully remove the hot patch cap, blowing out any ashes that may be in the tire. The operation is then complete.

Resealing Gun Method—There is one additional method that is



STURDY STEP LADDER

Top step is 12½" x 24" . . . Welded steel construction . . . collapsible . . . rubber protector to prevent scratching . . . Kant Slip Steel Steps.



SEE YOUR JOBBER
OR WRITE . . .



HEAVY DUTY HAND TRUCKS MODEL 500

Excellent for handling drums, crates, any heavy load. All steel construction, Semi-pneumatic rubber tires. Lighter Model 250 also available for immediate shipment.



GEIGER CREEPER

Rolls easily, even on the roughest floors . . . The proven Geiger-Knight ¾" caster for Long Life . . . Reinforced steel bracket . . . Hand Hole for convenient carrying.



CLINTON PRODUCTS CO.

701 TECUMSEH RD.

CLINTON, MICHIGAN

used when nail holes do not exceed 1/16 in. in diameter. The same preliminary procedures are used to prepare the tire for the repair job as previously explained.

After you have marked the leak with a crayon, wipe the injury entirely dry and reduce the air pressure to 5 lbs. Probe the injury with a fine pointed tool and remove all foreign material. Don't enlarge the hole. Next, dip the tool in gasoline and make sure the hole is thoroughly clean.

Turn the screwhandle of the resealing gun until the sealing material appears. Pinch off the excess material. Then hold the gun nozzle directly against the hole and turn the handle three or four half turns. Allow it to stand for 15 minutes minimum before inflating tire to recommended operating pressure. Then recheck it in the water tank.



"You and that air of yours!"

Expansion Program Under Way at Lee

A program of modernization and expansion of its tire manufacturing facilities is underway at Lee Rubber & Tire Corporation, Conshohocken, Pa. A. A. Garthwaite, president of the Lee Corporation, said that "when the expansion is completed in mid-1955 the corporation's expenditures for new buildings and production equipment will amount to 20 per cent of the present net valuation of all Lee plants and equipment."

During the past year another

program has resulted in the addition of 124 new types and sizes of passenger and truck tires to the Lee line.

GM Motorama Appears At 5 Cities in 1955

The General Motors Motorama will appear in five major cities in 1955 it was announced recently by GM president Harlow H. Curtice. Featuring a new roster of experi-

mental "dream cars" and other attractions, the Motorama of 1955 will open at the Waldorf-Astoria Hotel in New York City January 20-25 inclusive.

It will appear in Dinner Key Auditorium, Miami, Fla., February 5-13; Pan Pacific Auditorium, Los Angeles, Calif., March 5-13; Civic Auditorium, San Francisco, Calif., March 26-April 3; and Commonwealth Armory, Boston, Mass., April 23-May 1. The Motorama is admission-free.



A New and Better

HEAVY DUTY WELDER and

BATTERY CHARGER



For Production,
Maintenance
& Repair Work



The Mid-States BULLDOG is aptly named. It's that tough! The new BULLDOG is a heavy duty model, designed, engineered and built to meet all repair, production and maintenance work. You, like thousands of other users, will find this combination welder and battery charger delivers unvarying, trouble-free performance. No moving parts, transformer carries 5 year burn-out guarantee. Equipped with dual voltage charger capable of charging either 6 or 12 volt batteries. Automatic tapering charge serves as safeguard against battery damage by gradually reducing amperage rate as battery reaches full charge. Furnished complete with helmet, welder cables, battery cables.

REA - Specifications - NEMA

Amp Range 15-175	Duty Cycle 50%	Max. Open Cir. Volts 65	Primary Amps 33	Power Factor 75%
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Model 175-A.C. Arc
Welder

Model 175-BC—Combi-
nation arc welder and
battery charger. Shipped
complete with accessories
as illustrated. Size: 16"
Wide, 13½" Deep, 20"
High. Shipping Weight:
136 pounds.

Send Today for Free
Descriptive Literature



Mid-States

WELDER MFG. CO.

6025 SOUTH ASHLAND AVENUE • CHICAGO 36, ILLINOIS

New Products Continued from Page 73

47

Hand Pump

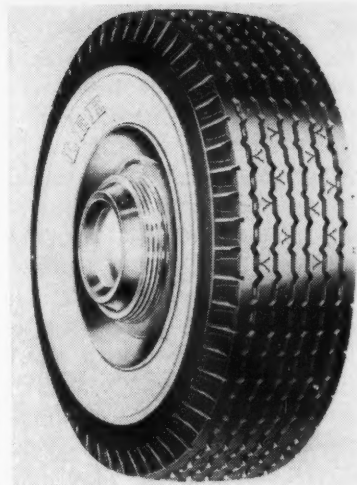
Bennett Pump Div.: Featuring an "automotive type" piston in its construction, the "Big G" portable transfer pump recently announced by this company is said to simplify removal of liquids from drums and skid tanks. This pump operates on both forward and back strokes delivering a continuous

flow, the maker states. The unit includes a vacuum breaker to prevent syphoning and anti-static protection wire in the hose and bronze nozzle.

48

Tubeless Tire

Lee Rubber and Tire Corp.: This manufacturer has added an all-nylon cord tubeless tire to its line.



The variable pitch tread of the "Double-Life" is said to reduce road hum on a straightaway and practically eliminate tire squeal on curves. According to the maker, the design of the narrower white wall helps prevent curb scuffing. In addition, the nylon carcass is claimed to be up to 80 per cent stronger than other types.

49

Hydraulic Hand Tool

Aircraft-Marine Inc.: A lightweight hydraulic hand tool for users of solderless terminals on wire sizes 8 through 2 has been introduced by this maker. The tool's double lever action produces a crimping force of 1200 lb. It is available in two styles, one with rotating nest in its head, and the other with removable inserts.

50

Parts Packages

Airtex Prod.'s Inc.: A group of colorful packages has been designed for Airtex pumps and parts. An orange background, with the Airtex trademark overprinted in blue provides identification. Part names and descriptions are prominently displayed, with space for imprinting part numbers, car applications, and other information, the company states.

51

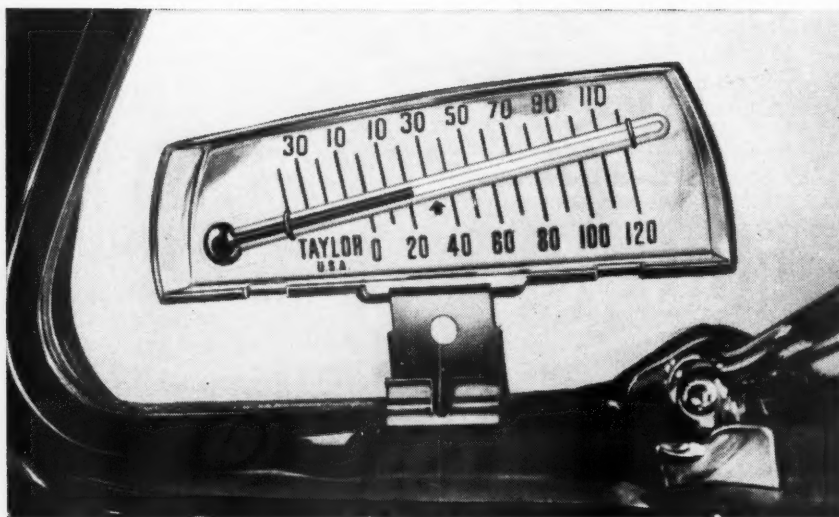
Carburetor

Rochester Products Div. of G. M.: A feature this maker claims for its carburetor for 1955 Chevrolet's and Pontiac V-8 and Oldsmo-

(Continued on page 162)

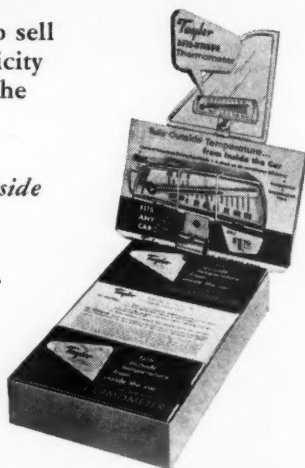
Taylor Auto Thermometer

- a new cold weather profit item!



THE new Taylor Thermometer is a cinch to sell at this time of the year. Nation wide publicity in newspapers and magazines, coupled with the cold weather, have put it in the 'best seller' category.

This first practical auto thermometer tells *outside* temperature from *inside* the car . . . warns of hazardous driving conditions. Easy to read, it locks on the outside of either vent window. Popularly priced at \$1.19, it is merchandised in a self-service promotion display package of six. (\$7.20). Prompt delivery on all orders. Taylor Instrument Companies, Rochester, N.Y. and Toronto, Canada.



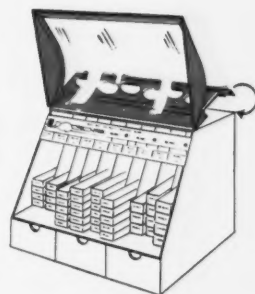
Taylor Instruments **MEAN ACCURACY FIRST**

Adds a solvent "salesman" - keeps cabinet stocks clean



The NEW TRICO VIS-U-LID

(Just snap it on;
it locks in place)

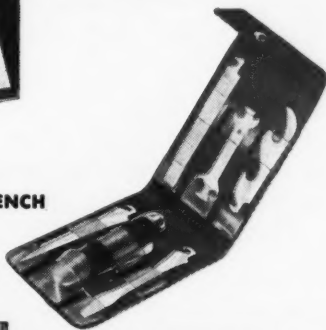


4 BONUS ITEMS WITH EACH D-105 VIS-U-LID KIT



1. TRICO VIS-U-LID

2. JACK-MASTER TOOL KIT
WITH WASHER NOZZLE WRENCH



3. TRICO ARM AND BLADE CHART

4. TRICO ARM PULLER TOOL



● This new colorful plastic and metal Vis-u-lid cover for Trico Stock Organizer Cabinets is yours free with the purchase of a modest stock of Trico Rainbow and Triple Action Blades, Trico Wiper Arms and Trico All-Season Solvent.

Snapped into place, the Vis-u-lid adds to the eye appeal of your Cabinet, keeps stocks clean and provides space for displaying 6 bottles of Trico Solvent.

And as an extra bonus, the Trico Vis-u-lid Kit contains the new Jack-Master Tool Kit, including a Trico Washer Nozzle Wrench; a Trico Arm and Blade Specification Chart; and a Trico Arm Puller Tool.

Phone your Trico Wholesaler for details about this special offer.

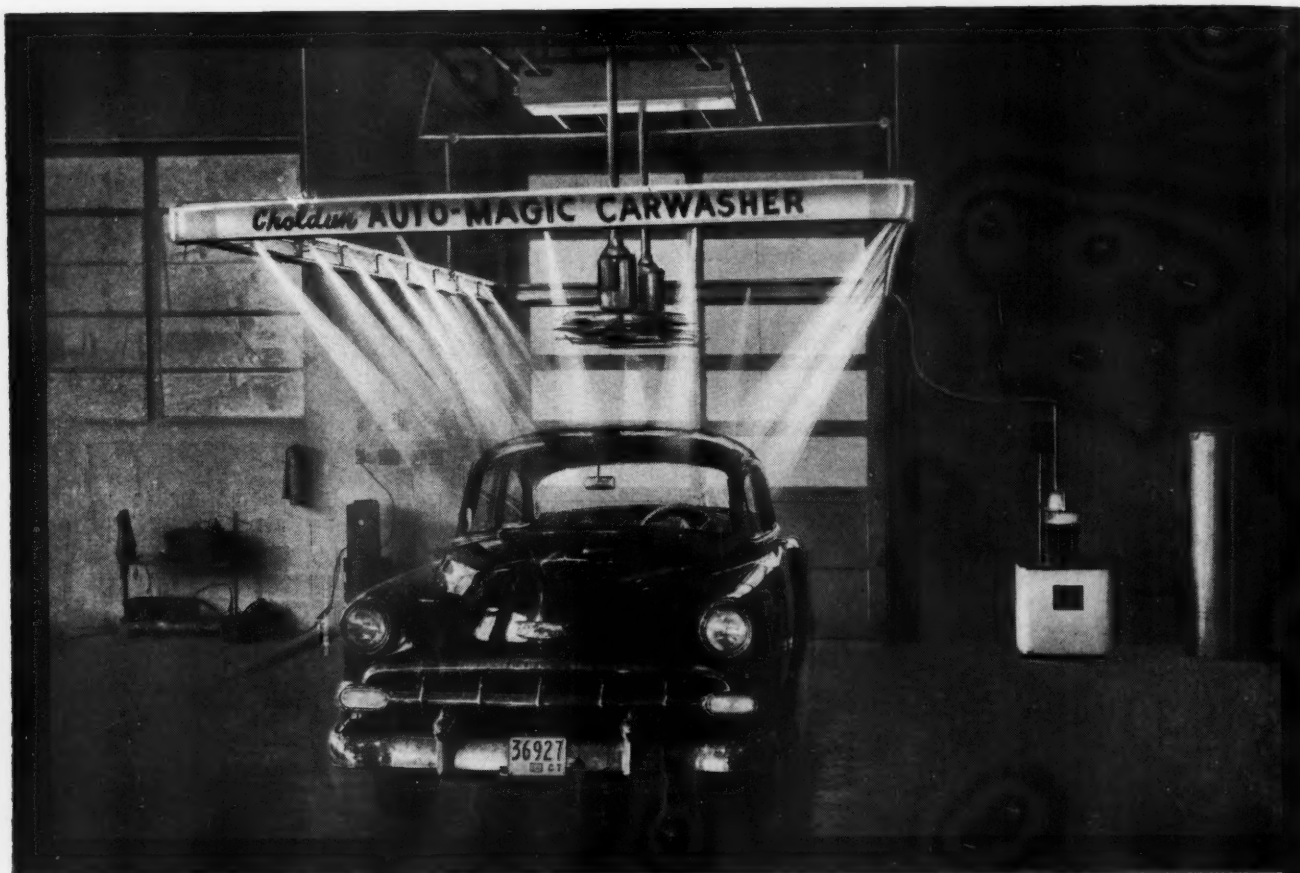
If you are not one of the tens of thousands of dealers now displaying Trico D-102 Cabinets, your wholesaler can supply you with one on a most attractive basis.



Windshield Equipment

TRICO PRODUCTS CORPORATION, BUFFALO, N.Y.

\$ 2 A DAY PUTS AUTO LAUNDRY



CHOLDUN "PURPLE MAGIC" CAR WASH SHAMPOO

The first really New carwash development in years. Not just a carwash, but a "wash-wax" that leaves cars gleaming and protected in just one application. What's more, it never removes wax already on the car, in fact it adds wax. "Purple Magic" will keep your customers coming back time and again for the wash that looks like a wax job. Available in 16 oz. btls., 5, 15, 30 & 54 gallon drums.



'AUTO-MAGIC' CARWASHER

With a Choldun "Auto-Magic" Carwasher, you easily cash-in on the tremendous carwashing business you've been missing. Turn out better, faster wash jobs with a minimum of help and make washing a profitable part of your business. Did you know that your customers often have their cars washed five times to every one time they have them lubricated? You are equipped to render lubrication service, but are you fully equipped to capitalize on the much greater demand for washing?

Only the Choldun "Auto-Magic" wets, shampoos and rinses the entire car; eliminating any need what-so-ever for a bucket or hose to properly wash the front and back sides of the car as needed with other washing equipment. Only the Choldun "Auto-Magic" allows you to wash panel, pick up and delivery trucks as a regular part of your carwash service.

Features: new all-Aluminum Elevator; simple push-button operation; "no track installation" . . . leaving your bay free; shampoo meter jet; visible shampoo supply; self contained motor and pump; water tank (operates on normal city water pressure and insures a constant water supply regardless of flow in your lines); eye catching Up and Down operation and requires no special drains. "Turn your Carwash woe into extra dough" with the Choldun "Auto-Magic" Carwasher.

THIS CHOLDUN IN YOUR WASH BAY!



'AUTO-MAGIC' CAR DRYER

Now, eliminate the big drying bottle-neck that takes twice the time of washing. The New Choldun "Auto-Magic" Car Dryer cuts drying time and effort as much as 75%. Turn out sparkling, dried cars as fast as specialized Auto Laundries for hundreds of dollars less than you'd expect to invest in drying equipment.

Revolutionary in every respect, a flick of the switch starts the 2 Ultra-High Velocity Fans spinning. Air is forced down on the car's surface, blasting the bulk of the water off the car . . . allowing you to dry the car in minutes. The "Auto-Magic" Car Dryer is easily installed in any wash bay . . . leaves the bay free. For a drive-thru operation, it can be installed in the bay ahead, enabling one car to be washed at the same time another is dried; affording speed usually found only in expensive Auto Laundries. No matter what type of washing set-up you have — by hand or machine — the Choldun "Auto-Magic" Car Dryer is an important addition that reaps huge profits from your wash bay.

CHOLDUN Mfg. Corp., New Haven, Conn.

*Easy Finance Terms can be arranged by your Authorized Choldun Jobber.

This Choldun Auto Laundry, WASHER and DRYER, can be yours, financed through your Authorized Choldun Jobber and the Commercial Credit Plan, for as little as \$2 a day.

CHOLDUN MFG. CORP.
NEW HAVEN, CONN. MA

Tell me how I can put my wash bay on a high paying basis.

NAME

STREET

CITY & STATE

New Products Continued from Page 158

bile "88" engines is a calibrated cluster design which places idle tubes, main well tubes, pump discharge holes and small venturi in a removable assembly. Other features, it is said, include: an increase in size of vacuum piston, slot milled in one end of this piston and an enlarged choke vacuum by-pass.

52 Business Guide

Chilton Co.: Motor Age's Business Guide for 1955 presents details of the automotive business outlook for the coming year. Facts, figures and observations taken from a Chilton survey provide a comprehensive analysis of the Automotive Service Industry in the

past and its possibilities in the future. Among the tables offered in the Guide are those showing total sales by states, car registrations and production. The 8 page Guide is available through this company as a reprint from MOTOR AGE.

53 Oil Lines

E. Edelmann & Co.: An assortment of "Fits-All" universal flexible oil lines, displayed in a wire rack, has just been marketed by

Since 1954, all cars have been factory-filled with SAE Heavy Duty Brake Fluid!

With the new method of mounting master cylinders on the fire wall, it becomes imperative that you refill with SAE Heavy Duty!

For best results, use EIS SAE SUPER "50"! It meets and exceeds specification 70R1 and is formulated to withstand extreme heat in all conditions of operation. Costs but a few pennies more but it brings customers back—alive!

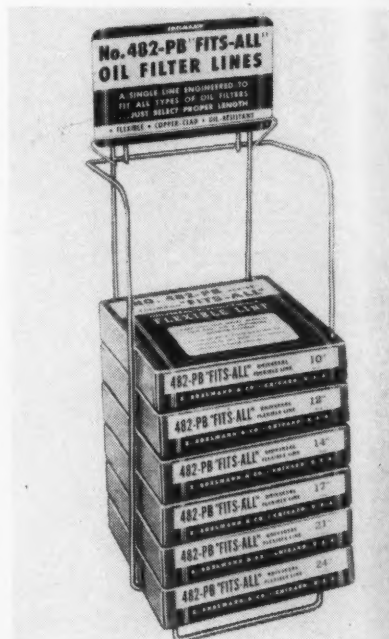
Write for NEW catalog!
EIS AUTOMOTIVE CORP.
Middletown, Conn.

YOU CAN'T SPELL SAFE UNLESS YOU USE SAE!

REPLACE... REPAIR... REFILL WITH EIS

THE COMPLETE BRAKE PARTS LINE

WARNING!
In Minnesota and New Jersey — the only brake fluid you can legally sell is SAE Heavy Duty!



this company. Each line, of the six line assortment, is packed in an individual carton with three adapter fittings. A single package duplicates most custom oil, grease, vacuum and oil filter lines, according to the maker.

54 Brake Package

Bendix Prods. Div. Bendix Aviation: This maker now offers a "factory new" brake shoe program. The shoes are built to the car manufacturer's specifications and are used to replace worn shoes which need not be exchanged, relined or reworked, the maker states.

55 Paint Outfit

Binks Mfg. Co.: The De Luxe paint shop outfit being marketed by this company is built around
(Continued on page 166)

WORRIED ABOUT TUBELESS TIRE SERVICING?

**THE HENDERSON TIRE CHANGER IS
SPECIALLY DESIGNED TO HANDLE TUBELESS TIRES**

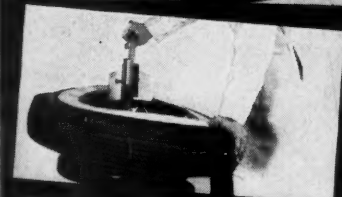
**SEE HOW IT ELIMINATES
THESE DANGER POINTS
... EASILY ... QUICKLY!**



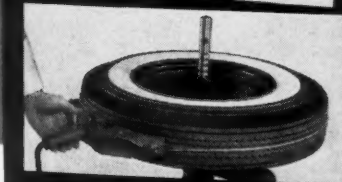
1. Breaking Bead! Only Big 4's Henderson Bead Breaker lies flat on beads ... prevents damage to sealing ribs.



2. Demounting! Only Big 4's Henderson patented Demounting Tool is designed to lift tire beads off rim ... no ripping or turning.



3. Mounting! Only Big 4's Henderson patented Mounting Tool holds tubeless tire bead and lining away from rim ... no chance of tearing tire lining.



4. Expanding Bead! Big Four's Tubeless Tire Bead Expander (pat. pend.) assures positive seating of beads ... for easy, quick inflation.

Let's face facts! Tubeless tires are here to stay. Why not change your servicing problems into big, new profits by installing a Big 4 Henderson Tire Changer. Eliminate risk of clumsy hammers and tire irons causing damage to sensitive ribs, beads, and linings. With the Big 4 Henderson Tire Changer even unskilled employees can do the job speedily and safely. You also have this double advantage the Henderson Tire Changer is designed specifically for tubeless tires as well as conventional tires. Equip yourself now to handle this big, new market with the Big 4 Henderson Tire Changer. Priced from \$109, slightly higher on West Coast. If you wish, Big 4's factory trained representatives will school your employees in servicing tubeless tires.

**MAIL
COUPON TODAY!**

You can't afford to wait! Ask for money-making details! Latest report from Detroit is that entire automotive industry will start using tubeless tires in 1955!

**BUY BIG 4 HENDERSON
AND GO AFTER THE
RICH, NEW MARKET IN
TUBELESS TIRE SERVICING**

Don't Be Fooled! Be Sure! Buy Big Four's Henderson And Take The Risk Out Of Tubeless Tire Servicing!

BIG FOUR

INDUSTRIES, INCORPORATED

Henderson Tire Changer Division
CINCINNATI 12, OHIO

Overseas Division
276 West 43rd Street
New York 36, N. Y.

Canadian Division
Canada Vulcanizer & Equipment Co., Ltd.
London, Ontario

BIG FOUR INDUSTRIES, INC. • HENDERSON TIRE CHANGER DIVISION
Dept. MA Cincinnati 12, Ohio

☐ I am interested in a free, no-obligation demonstration of the Big 4 Tire Changer.

Name _____

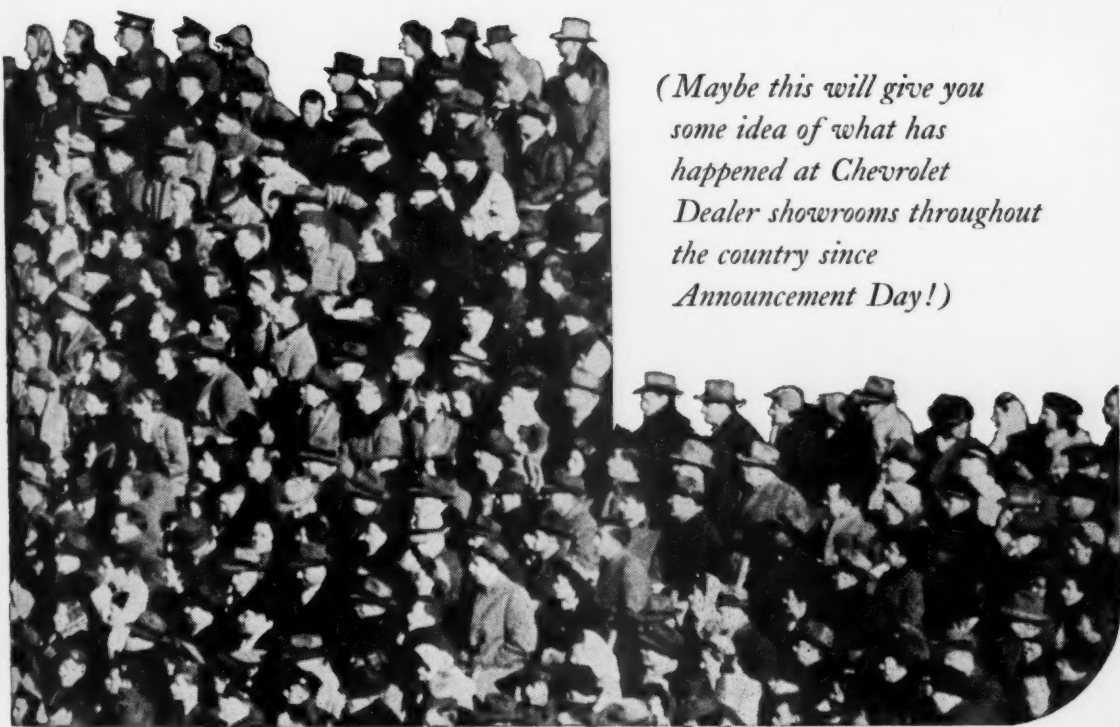
Care of _____

Address _____

City _____ State _____

Show people a "Show-Car" like
THE MOTORAMIC CHEVROLET
and you'll pack 'em in like this! . . .





*(Maybe this will give you
some idea of what has
happened at Chevrolet
Dealer showrooms throughout
the country since
Announcement Day!)*



*New Products
New Progress*

*for a New Era
of Leadership!*

New Products Continued from Page 162

two heavy duty spray guns and an oil and water extractor. The unit delivers clean and dry air ample for the two guns operating continuously, it is said. Six extra siphon cups with spring type clamp-on covers permit paint storage in the cup. The outfit also includes two 25 foot lengths of heavy duty hose with quick de-

tachable connections and a blow gun.

56 Counter Dispenser

Minnesota Mining and Mfg. Co.: Retailers can cut and sell silver and red "Scotchlite" brand reflective safety tape in any desired length from this counter dispenser, it is claimed. Called the profit



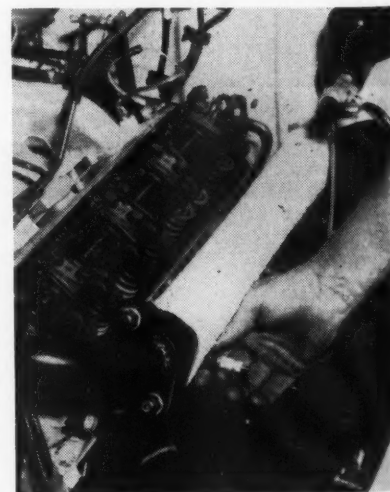
maker it holds a 150 foot roll of 1 inch wide silver or red reflective tape and can be permanently fastened to the retailer's counter.

57 Fuel Additive

Penna. Refining Co.: Gumout is offered in a new 8 ounce package that is designed to promote the product's wider use as a gas tank additive. Used with 5 or more gallons of gasoline in a tank, the additive is said to remove gum, varnish and moisture. The manufacturer claims that regular use of gumout will keep carburetors clean.

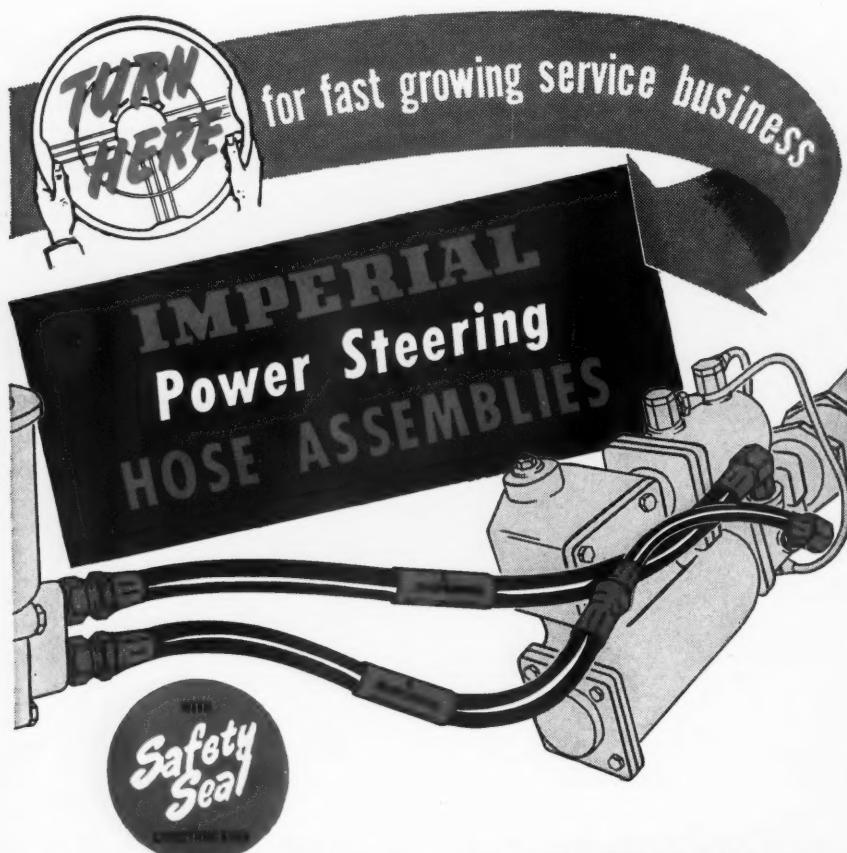
58 Asbestos Sleeve

Joe L. Estes Co.: This company has marketed an asbestos sleeve for covering the exhaust manifold of a car. Called "Burn-Protecto," the device is said to permit work



around a hot manifold without danger of burns. Designed to snap-on, the sleeve is available for Ford, Mercury and Lincoln cars.

(Continued on page 168)



Power steering hose assemblies are subjected to an extremely severe combination of service conditions including high pressure, surge and heat and are a vital replacement item. Over 17% of all new cars are being equipped with power steering — and the percentage is constantly increasing. Over 2,000,000 cars with power steering will be on the road by the end of 1954.

Your **IMPERIAL** Distributor can supply you with better power steering hose assemblies — has the industry's most complete line.

Write for handy **WALL CHART** No. 3034 showing Power Steering Hose Assemblies used on various makes and models of cars; gives retail prices.

See Your Jobber



THE IMPERIAL BRASS MFG. CO., 1217 W. Harrison St., Chicago 7, Illinois
In Canada: 334 Lauder Ave., Toronto, Ont.

IMPERIAL

Brass Fittings • Flexible Lines
Shut-Off Valves • Service Aids
Tubing Tools • Drum Faucets



A Lipe Clutch

is a
BALANCED CLUTCH!

Keep it that way with Genuine LIPE Parts!

Balance is all-important in engine and drive line parts. Take the pressure plate of a clutch, for instance.

Pinch-hitting with imitation plates often results in unbalance. Vibration is distributed throughout the vehicle, causing costly damage to engine bearings, motor mountings, chassis—in short, a general shortening of the life of the vehicle.

All *Lipe* pressure plates are balanced at high

You'll know Genuine *Lipe* Parts by this distinctive green and yellow box . . .

Genuine *Lipe* clutch parts come to your dealer packaged in green and yellow boxes like the one shown here.



speed before leaving the factory. Expensive, high-precision equipment, operating under exacting quality-control methods, assures vibrationless performance in the *Lipe* plates you install.

Lipe parts may cost slightly more than imitation parts. *But they pay you dollars more*—in customer satisfaction, repeat business, and the reputation for sound craftsmanship that makes your business grow.

If in a larger city, look for this ad in the yellow pages of your telephone directory under "Clutches". Write to the factory for complete data, free service manuals and wall chart, and name of your nearest authorized jobber.



***Lipe* - ROLLWAY CORPORATION**

Manufacturers of Automotive Clutches and Machine Tools
Syracuse 1, N. Y.

FREE

**How to
QUICK-CHARGE
batteries
ON THE ROAD!**



INSTANT HOOK-UP

9 out of 10 calls for service on the road involve a discharged battery. With a Leece-Neville Alternator on your service truck, you just make an instant hook-up to the low battery and quick-charge it right there.

"MADE-TO-ORDER" FOR AUTOMATIC TRANSMISSIONS

Pushing an "automatic" to start it is asking for a smash-up. The Leece-Neville quick-charge hook-up is the answer. Send the coupon for free directions telling how to make this simple quick-charge rig.

MAIL THIS COUPON TODAY!

**A NEW
SOURCE OF
PROFITS
FOR YOU!**

THE LEECE-NEVILLE COMPANY, CLEVELAND 14, OHIO

OK, send me the free directions for making a quick-charge rig with an L-N Alternator.

☐ Check here if you want to know about the special deal for an Alternator on your service truck.

Name _____

Address _____

Post Office _____

State _____

New Products . . .

Continued from Page 166

59

Heavy Duty Cable

Packard Electric Div. G.M.: Packard's super duty cable has greater resistance to weather and has smaller diameters than the twine-braided heavy-duty cables yet is equally resistant to abrasion, according to the company.

60

Battery Equipment

Electric Storage Battery Co.: The leader of this company's 1955 line of battery service equipment is the "Deluxe automatic battery charger and tester." The unit



charges 6-volt batteries at 100 amperes and 12-volt batteries at 50 amperes, according to the maker. The new line includes a similar model, less the tester, portable fast chargers in two sizes, a utility charger, trickle chargers and battery boosters.

61

Generators

Arrow Armatures Co.: These generators are completely rebuilt duplicates of the original equipment they replace, the maker states. Each complete generator is said to be standard in every detail so that any component part

(Continued on page 170)

American Motors rolls out the red carpet with the all-new

1955 HUDSON HORNETS and WASPS



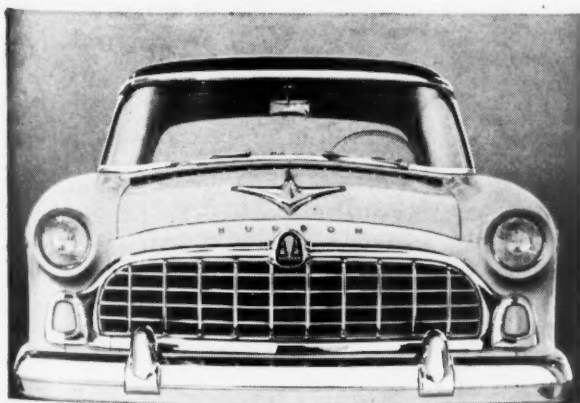
Beautiful performers—the brilliant, new Hudson Hornet and the bright, young stars of the New York City Ballet.



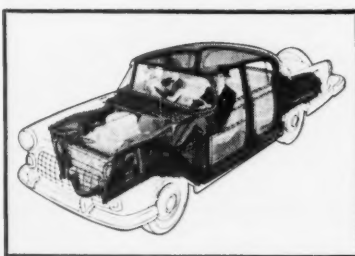
NEW HORNET V-8 AND HORNET CHAMPIONSHIP SIX

The latest, greatest of the V-8's. Short-travel pistons deliver quick power, fast pickup. Smooth, whisper-quiet, rugged.

Championship Six engine holds 150 stock-car wins. Super induction for instant action. Twin H-Power an extra-cost option.



NEW 1955 HUDSON WASP—in low-medium-price field — new body construction, new ride, new ease of handling — luxury far beyond its low price. All power assists, fully automatic drives, are optional extras.



STAYS LIKE NEW LONGER

—Double Strength Single Unit Body—twice as rigid, twice as strong, twice as safe. Long coil springs slanted outward for new anti-sway safety and a soft Deep Coil Ride.

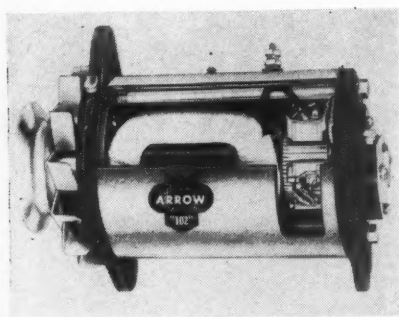


COOL IN SUMMER, WARM IN WINTER

—All-Season Air Conditioning—it's balmy springtime in Hudson always. No separate heater needed—no trunk space used up—record low extra cost.

Standard trim and other specifications and accessories subject to change without notice.

New Products Continued from Page 168



can be replaced later at any repair shop. The company claims that it has a generator available for most cars and light trucks.

62 Analyzer

Allen Elec. Co.: Because this analyzer operates from AC current it is said to eliminate the

necessity for a storage battery or battery charger. The unit's steel cabinet holds four removable test units and has a large storage space. The test units are: a volt-amp tester, a combined coil and condenser tester, combustion analyzer. A shop's present 6-volt equipment may be converted to handle 12-volt systems by using the components of this analyzer, the maker claims.

63 Anti-Freeze Label

Nat'l Carbon Co.: A new label for both gallon and quart containers of "Prestone" anti-freeze has recently been announced by its maker. The label is in red, blue and silver colors with the words "Set . . . Safe . . . Sure" (used in all "Prestone" advertising) prominently displayed.

64 Power Hammers

Skil Corp.: A featured item in the 1955 line of Skil tools is the pneumatic hammer kit. The pneumatic hammer, with a new style barrel, has a removable inner sleeve and replaceable nozzle. Convertible to operate hex shank tools



The shape of this solder makes the difference*

STAR★ body solder has five peaks on its cross-section to give you quicker, more even melting.

The five valleys between the points make STAR easier to grip. In combination, the peaks and valleys make molten solder easier to control and direct. There is little, if any, run-off of metal.

Federated STAR body solder is made of good metal, scientifically alloyed by men who know how. Experience in the field has proved that it is the ideal mixture for body work.

Try STAR today. Your jobber has it. He also has Federated Acid Core wire solder for tinning and general repair.

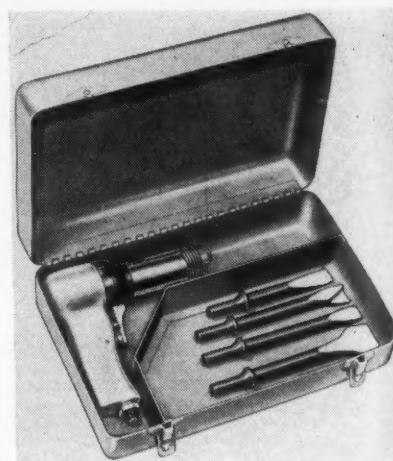
Photo courtesy De Cozen Motor Company, Newark, N. J.

Federated Metals Division

AMERICAN SMELTING AND REFINING COMPANY
120 BROADWAY, NEW YORK 5, N. Y.

In Canada: Federated Metals Canada, Ltd., Toronto and Montreal

Aluminum, Magnesium, Babbitts, Brass, Bronze, Anodes, Zinc Dust,
Die Casting Metals, Lead and Lead Products, Solders, Type Metals



the hammer has a metering air valve for sensitive control, the maker claims. The kit includes a chisel, scraper, rivet cutter and panel cutter.

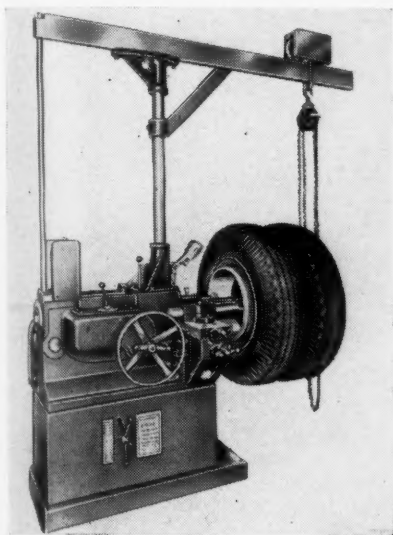
65 Home Charger

Gould-National Batteries, Inc.: This portable home charger can be plugged into a cigar lighter on

a car's dash board. The claim is made that this unit corrects all conditions of battery undercharge. When the battery is fully charged, it switches to battery saver circuit. According to the maker no overcharging is possible. Automatic models are available for both 6 and 12 volt systems.

66 Brake Drum Lathe

Van Norman Co.: "Vapo-Jet" wet grinding, a feature of this brake drum lathe, is said to eliminate dust in operation. A load com-



pensator, which provides support for weight on the main spindle, and a 16 inch spindle travel are other features. In addition, the machine turns and finish grinds simultaneously, the firm claims.



67 Brake Linings

Russell Mfg. Co.: "Edgebranding" of brake linings has been introduced by this company. The Rusco name is branded permanently on the edge of the lining. They are available in pre-cemented segments, lock-on and drilled sets for all passenger cars and light trucks, the maker states.

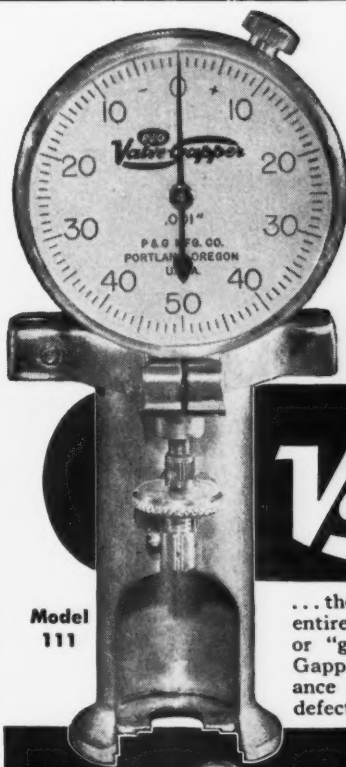
68 Service Jack

Hein-Werner Corp.: A hydrau-

lic Twin-Saddle service jack that lifts one end of a car by the bumper and frees both wheels at once, has been introduced by this company. Load capacity of the "55" is 1½ tons. Lifting range 8 inches to 30¾ inches. Safety devices prevent overloading or over travel of ram or saddles, it is claimed.

69 Compressor Units

Lynch Corp.: Par compressors
(Continued on page 174)



Model 111

**Don't Set Valve Gap
"Close Enough"...**

*Set it
Exactly Right!*

IN HALF THE TIME

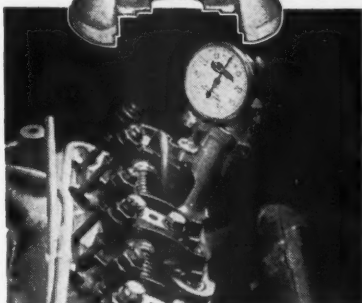
**P&G
Valve-Gapper**

...the new precision instrument that utilizes an entirely new principle in adjusting valve clearance, or "gap" on valve-in-head engines. The Valve-Gapper assures micrometer accurate valve clearance adjustment and instant location of noisy or defective hydraulic lifters.

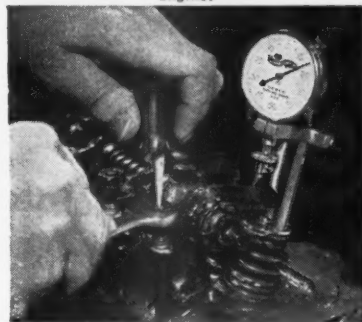
- Reduce Valve Adjustment Time approximately 50 per cent!
- Check the Valve Gap Visually and get Micrometer Accurate readings BEFORE, DURING and AFTER Adjustment.
- The VALVE-GAPPER is Fast, Easy to Use—both hands are FREE to make adjustments while dial indicator registers exact setting.
- Use the VALVE-GAPPER for instant location of defective hydraulic lifters.
- Use the Dial Indicator for other shop tasks.

MODEL 201—FOR GM DIESEL ENGINES

- Enables mechanics, owners, operators to—
- Adjust Valve Clearance
 - Time Fuel Injectors • Balance Fuel Racks



Valve-Gapper in position on 1954 V-8 Ford Engine.



Mechanic using Valve-Gapper on Chevrolet Engine.

Order from Jobber or Write P&G Mfg. Co.

P&G MANUFACTURING CO. Dept. 12A

2262 N. Albina Avenue, Portland 12, Oregon

Please send me Valve-Gapper literature and prices.

FIRM NAME _____

YOUR NAME _____

ADDRESS _____

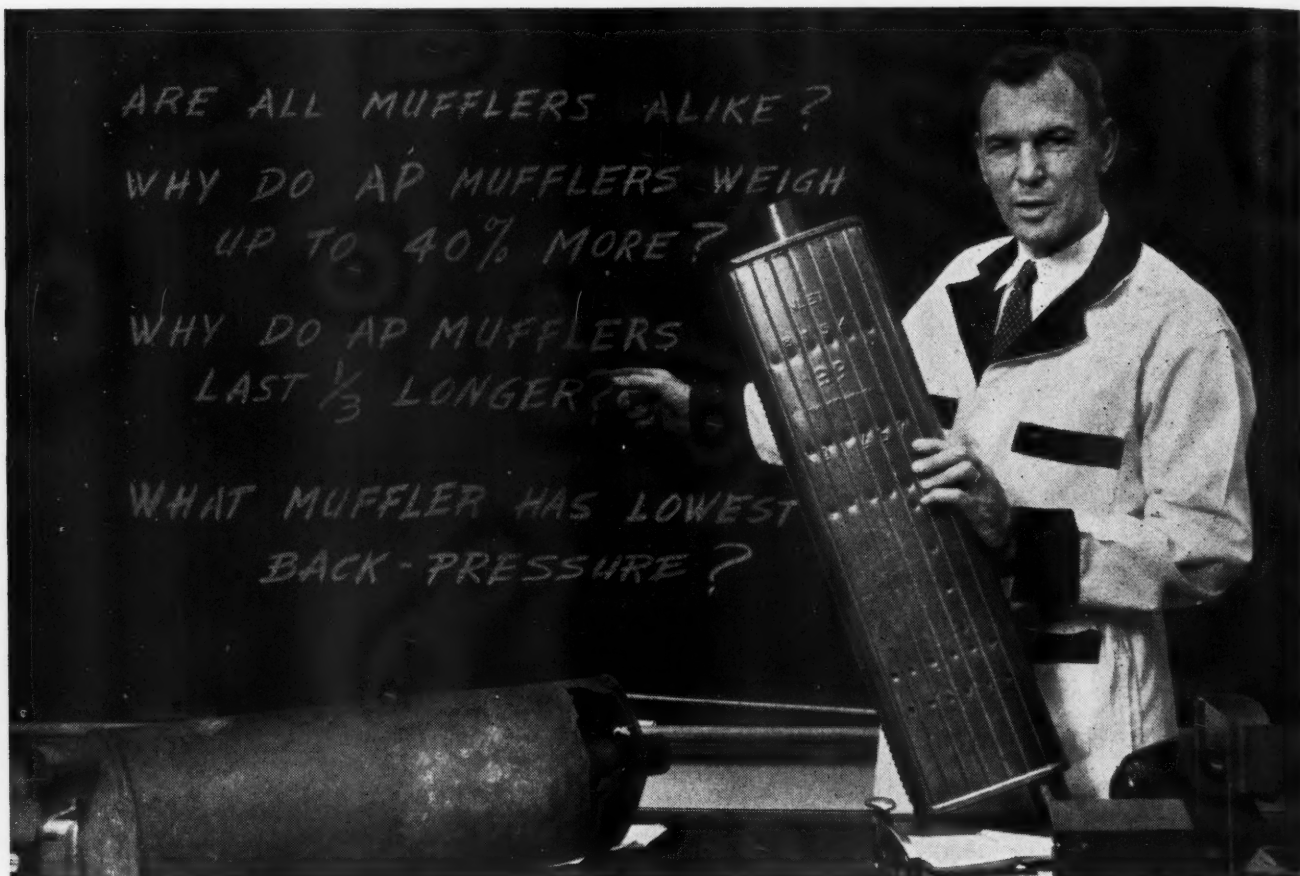
CITY _____ ZONE _____ STATE _____

ENGINES SERVICED _____

MY JOBBER IS _____

ALL MUFFLERS ARE NOT ALIKE...

No longer will any muffler do...



Today's motorist is out for greater horsepower, and he'll buy anything that will help him get it. Mufflers that build up big back-pressures rob him of horsepower. Today's better-breathing engines call for better-breathing (exhaling) mufflers.

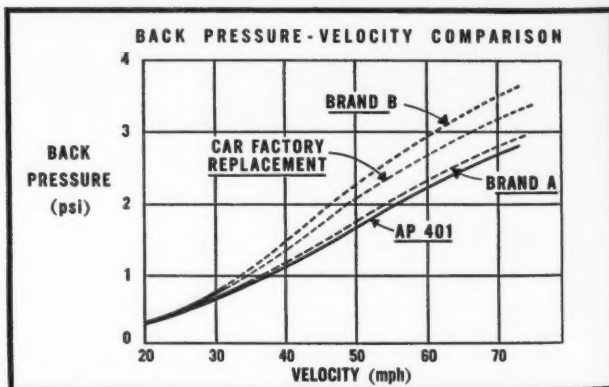
In a series of tests of all leading competitive mufflers, AP mufflers showed the least back-pressure. This low back-pressure saves gasoline, and speeds pick-up, too.

AP mufflers have many other features that make them different. Extruded holes practically eliminate clogging, and the larger tubes and chambers can handle a greater, faster exhaust flow. Double crimp-locked seams, stronger than spot welding, give greater protection against leaking—lessen the carbon monoxide danger. The patented outer shell, plus the intermediate shell, creates sound-deadening chambers that insulate against noise and heat. These better-breathing mufflers give $\frac{1}{3}$ longer life because, wherever service requirements call for it, the shells are $\frac{1}{3}$ heavier steel.

These are just a few of the many features of AP mufflers. Ask your jobber to show you the AP "Inside Story." It's an eye opener that you should be sure to see.

How to Become an AP Muffler Specialist:

Simply register with your AP wholesaler, carry a minimum basic stock, and make it routine to look at the muffler of every car that comes into your shop.



Low back-pressure in AP mufflers is clearly indicated in this chart of competitive tests with three other leading brands—one of a series that showed the AP muffler ahead every time.



BETTER-BREATHING MUFFLERS—DESIGNED FOR TODAY'S

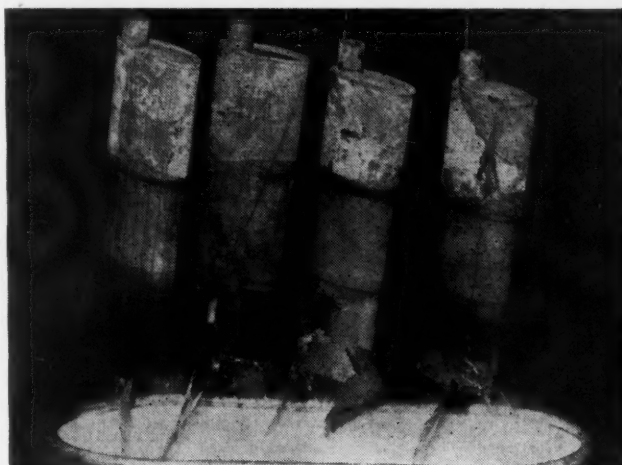
YOU GET A LOT MORE WITH AP

here's the exact reason why

AP DESIGN AND HEAVIER CONSTRUCTION MEAN LONGER LIFE

Brand	Ford	% AP is heavier	Chevrolet	% AP is heavier
AP	14 3/4 lb		11 1/2 lb	
.... A	10 1/2 lb	40.5	8 lb 9 oz	34.3
.... B	11 3/4 lb	25.5	9 lb	27.8
.... C	12 lb	23.0	8 lb 11 oz	32.3
Brand	Plymouth	% AP is heavier	Hudson	% AP is heavier
AP	16 lb		12 1/4 lb	
.... A	12 lb	33.3	9 1/2 lb	28.9
.... B	12 lb	33.3	9 1/4 lb	32.4
.... C	12 1/2 lb	20.8	12 1/4 lb	*

* Car factory replacement, AP produced



Soaked in corrosive acid, like that encountered in actual operation, three leading competitive mufflers are soon eaten through. The AP muffler (extreme left) withstands this "acid test" far better than the others, lasts 1/3 longer, because of its heavier steels.

All the sales helps you need from AP



Your initial sales package will include a poster, a post card, an inspection tag, a decalcomania, classified ads, a catalog, and price sheets. Then AP mails direct to you a constant flow of additional sales aids and up-to-date price and catalog data.



Ads like this Post ad will be read by hundreds of your customers and prospects. They'll look for the sign of the AP Muffler Specialist.

HOW TO MAKE \$2000 EXTRA WITH AP

JUST 6 SALES A WEEK FOR 50 WEEKS = \$2100

	AP Muffler	AP Pipe	Labor	Daily	Yearly
You collect	\$9.00	\$5.20	\$4.00	\$18.20	\$5460
You pay	5.80	3.40	2.00	11.20	3360
You make	\$3.20	\$1.80	\$2.00	\$ 7.00	\$2100

Based on average purchase and sale prices. Labor figured on average flat rate, split 50-50 with help

THE AP PARTS CORPORATION

161 AP Building, Toledo 1, Ohio
Mufflers and Pipes • Miracle Power • dgf 123

BETTER-BREATHING ENGINES

Chilton's MOTOR AGE, JANUARY, 1955

THIS FREE SIGN IDENTIFIES YOU



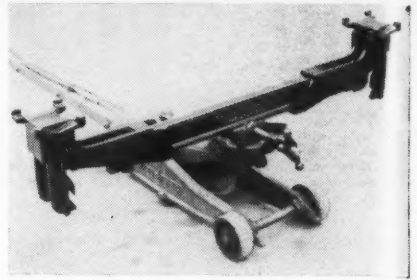
New Products Continued from Page 171

are of the four cylinder V-type design. The manufacturer states that the fan-type flywheel, large capacity inter and after coolers, cylinders and heads with directional fans assure cooler operation. In addition, the unit features a centrifugal pressure release, combination ring and centrifugal force oiling system, built-in oil level gauge, and two intercooler safety valves.

70

Jack Attachment

Naf-Lo Co.: It is claimed that any two wheels of a car can be jacked up simultaneously by bumper or frame with the "Hy-lift" floor jack attachment. When clamped on the unit is said to add an additional 11 in. of hoisting height to any floor jack. Ad-



justable for width from 28¾ in. to 47¼ in., the unit weighs 40 lb.

71

Bearing Manual

Nice Ball Bearing Co.: An alphabetical listing of car, truck, bus and tractor manufacturers with model designations, factory bearing numbers and corresponding Nice numbers makes up the first section of the manual. Other numerical listings including interchangeability data plus illustrations of specific bearings round out the information provided.

72

Power Take-Off

Warner Auto. Parts Div. Borg-Warner: A power take-off and hydraulic pump with pump gearing stepped up to equal engine speed has been introduced by this company. Of the two sizes offered one will have hydraulic capacity of 1.38 cubic inches per revolution for tail gate operation and the second will have hydraulic capacity of 1.80 cubic inches per revolution for dump bodies, the producer states.

73

Spark Plug

Champion Spark Plug Co.: Designed, it is said, to minimize

Ray Powers is VP of Stude-Packard

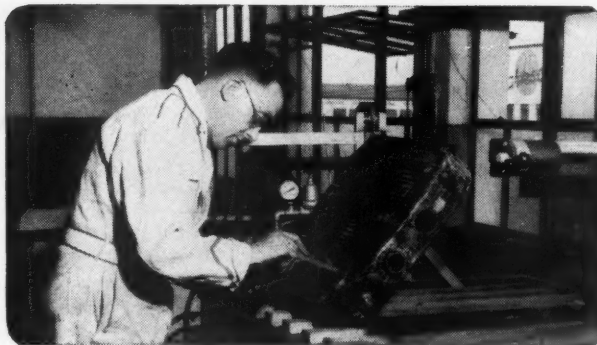
According to James J. Nance, president of Studebaker-Packard Corporation, Ray P. Powers has been named vice president of operations for the company. Mr. Powers, who has been vice president of operations for Packard, will have the responsibility for the directing and coordinating of manufacturing, purchasing, and industrial relations for both automotive divisions and the defense division.

\$11,000 With an **INLAND RADIATOR DEPARTMENT**

in Only **8 months—Only 1 man!**

Says...

Jack Fagan of
Jack Fagan, Inc.
230 So. 7th St.
Phone 1073
Delavan,
Wisconsin
Population
4007



"Our return on our investment has been excellent. It paid for itself faster than any other equipment we have. As for space, we utilized a former car wash stall which everyone knows can't produce that many dollars. Inland properly trained our man and when I say properly I base that on the amazing small percentage of comebacks. And, Inland trained him at no extra charge."

Few automotive services offer such a potential for new and expanded business. Of the 60-million vehicles in the U.S., over 15-million require radiator service yearly. Inland-developed equipment allows operators to employ highly profitable production methods. And Inland, world's largest manufacturer of radiator repair equipment, offers the only complete package—equipment, training, merchandising.

Why Wait?

Start by investigating this now. The most it can cost you is a few minutes of your time. And the reward can be amazing.

Fill out coupon now for your free copy of "Blueprint For Profit." Gives details and prices of required equipment and experiences of other operators.



Inland Mfg. Co., 1108 Jackson St.
Omaha, Nebraska

Inland Manufacturing Co. Dept. MA-1
1108 Jackson St., Omaha 8, Nebraska

Please send free booklet "Blueprint for Profit."

FIRM _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

BY _____ TITLE _____

If Dealer, make of car sold _____

Are you now operating a radiator shop ☐ Yes ☐ No

P.S.—Mail Coupon Now. Take Advantage of New Models At Lowest Prices Ever!

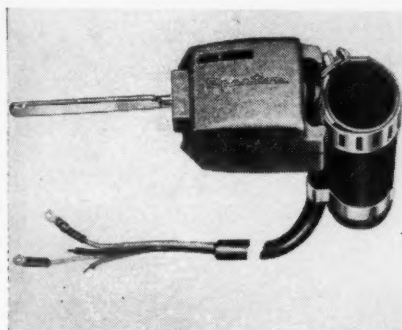
fouling at low speed driving and prevent pre-ignition under high-speed conditions, this plug is called the "turbo action." An 18mm thread-size and a tapered surface restricts the use of the plug to engines that are designed for it. It can be installed with a standard socket wrench instead of a torque wrench and needs no gasket, the manufacturer claims.

74 Clutch Sets

Lipe-Rollway Corp.: Clutches for standard installations from 12 to 17 inches single plate and 12, 14 and 15 inch two plate are available in the Lipe DP heavy duty line. Design of the clutch is said to eliminate chatter and plate warpage in addition to spot burning. The DP line is said to be well suited for use where the clutch is inaccessible for internal adjustments.

75 Directional Signal

Sparks-Withington Co.: The Sparton Roll-O-Turn self-cancelling directional signal switch is



rated for Class A use. The switch mechanism is claimed to have self-cancelling action performed by a positive friction drive. The unit's external wiring harness is protected by vinylite tubing. The switch is sold in a four-wire model and a seven-wire model.

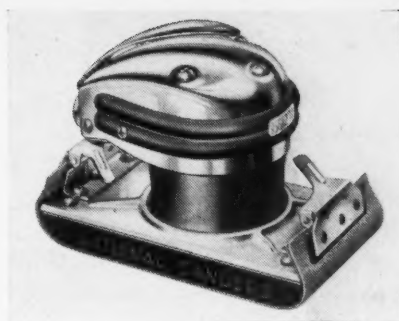
76 Hose Assemblies

Imperial Brass Mfg. Co.: Power steering hose assemblies are one of this company's lines to be offered in 1955. These assemblies feature safety seal construction

with extra length grip-on end connections.

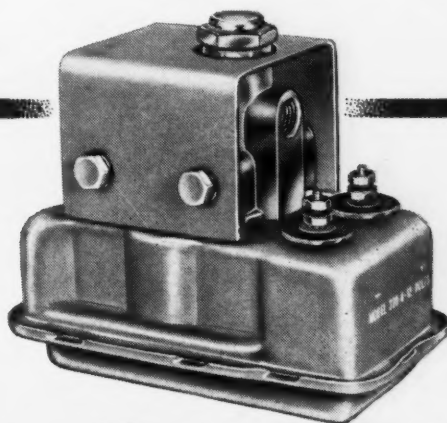
77 Air Sander

National Air Sander, Inc.: The "Mity Midget" orbital action sander requires from 50 to 75 lbs. of air pressure for operation. According to the maker the units speed can be varied from 4,000 to 6,000 rpm depending on the surface desired and the abrasive being used. Specially designed pads



can be quickly changed for various types of finishing work, it is said. (Continued on page 176)

**Insure
fast
starts**



...even in coldest weather!

STEWART-WARNER
Electric FUEL PUMPS

**Positive fuel delivery,
less battery drain, less "roadside time"!**

With the exclusive Stewart-Warner diaphragm there are no rotating parts, no pistons. Operating independently of the engine, you are assured of positive, abundant flow of gas the moment the ignition switch is turned on. Works *only* as gas is needed — saves wear — saves battery.

But even more impressive is the money saved in decreased roadside time — longer battery life — improved performance!

Heavy duty construction throughout. Heavy tungsten and platinum switch points combined with booster breaker spring mean no more pitting, arcing, burning. Weatherized finish is bright green baked enamel. Neoprene impregnated gasket seals out rain, road-splash. Protected under all conditions.

Start now to *save* with Stewart-Warner Electric Fuel Pumps. See your dealer or write:

STEWART-WARNER

Instrument Division, Dept. FF-15
1840 Diversey Parkway, Chicago 14, Illinois

New Products Continued from Page 175

78

Steam Cleaner

Turbo Machine Co.: The Spontane steam cleaner converts cold water to 80 psi steam in 45 seconds, the firm reports. It is available in open or enclosed model 120 gph or 180 gph capacity. Spontane uses a short one piece coil, has no fire box or no brick work. The flame is surrounded by a

water vat which serves as the fire chamber and stack. It is claimed that the fire chamber can not burn out.

79

Piston Rings

Wausau Motor Parts Co.: The steel segments of Oilsaver rings, it is said, are now chrome clad, and the entire piston ring assembly is

bonded together. Promotion of installing rings as a single unit has been undertaken by the maker. Monotized sets are packaged with chrome plated top compression rings, the maker says.

80

Gear Case Cleaner

Currier Co.: The Dee Tee cleaner automatically cleans and dries differentials and transmissions in nine minutes, this firm states. It needs no attention after being attached and turned on and shuts off



When customers speak
About "anti-freeze leak",
Here's the hose clamp
'T will pay you to seek!

Corbin Self-Tightening Hose Clamps help make winterizing positive . . . and profitable, too!

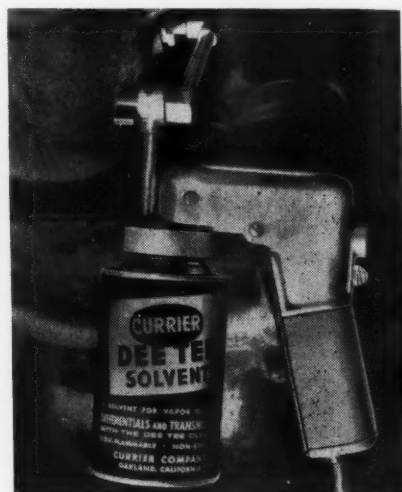
Save time and trouble. Corbin Self-Tightening Hose Clamps can be installed quickly and easily . . . eliminate the need for nuts, bolts, or screws . . . tighten automatically.

Provide safe, positive seals in all types of weather. Even at extremely low temperatures Corbin Hose Clamps will not seep permanent type anti-freeze. Made of high quality, tempered spring steel, these vibration-proof clamps hold their tension permanently . . . grip hose evenly and securely.

For prompt service, order Corbin Hose Clamps — the original self-tightening clamps, the first to be installed on original equipment. Order through your jobber today . . . all sizes from 3/8" to 2 3/8". Corbin Hose Clamp Div., The American Hardware Corporation, New Britain, Connecticut.



The Original
Self-Tightening HOSE CLAMPS



automatically. A further claim is that adapters to fit all cars are packed with each cleaner and the nozzle is adjustable for all clearances.

81

Sponge Cloth

Amer. Sponge and Chamois: The new Amsco sponge cloth is a
(Continued on page 178)



" - he's trapped - - he's trapped
- - he's trapped - -"

Now in Production!

WORLD'S FINEST
BATTERY VALUE...
IN ALL POPULAR
GROUP SIZES



Super
Willard
Weathermaster
WITH
**CLIMATE
CONTROL**



Adjusts its Power at the turn of this key

COMBINING THE TWO MOST
SENSATIONAL BATTERIES
IN WILLARD HISTORY...

- The POWERFUL
SuperMaster
- The REVOLUTIONARY
Weathermaster

DON'T WAIT...CALL YOUR WILLARD DISTRIBUTOR NOW!

New Products Continued from Page 176

sponge and cleaning cloth in one. This cellulose sponge-cloth cleans grime and dust in a stroke, the maker states.

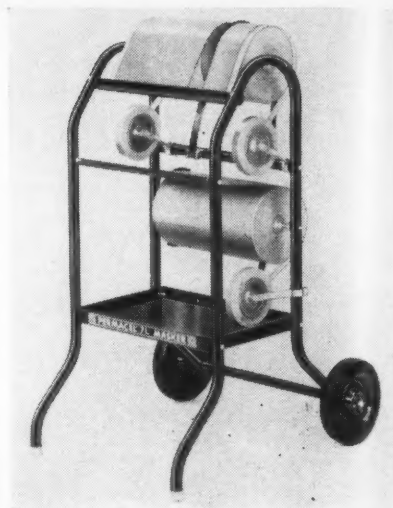
82 Gasket Sealant

Permatex Co., Inc.: Form-A-Gasket, a sealant for all types of assemblies, is resistant to a wide range of gases and liquids and is

effective in temperatures from 70 degrees below zero to 400 degrees above, its maker claims. The product is available in three forms: fast drying and hard setting; non-hardening and pliable; and liquid.

83 Tape Masker

Permacel Tape Corp.: A portable tape masker offered by this



company dispenses three separate widths of taped apron ready for immediate use. The claim is made that the separate tape feeder reels align masking tape along the edges of the 3, 9, and 12 inch widths of masking paper. A large steel tray provides room for extra rolls of tape, small tools, etc.

84 Wheel Lock

Auto Safe, Inc.: Claimed to make a car theft proof, Auto-Safe is now available through this maker. Installed in the dashboard the device is connected to the hydraulic system. To lock the wheels, the driver turns the key and steps on the brake.



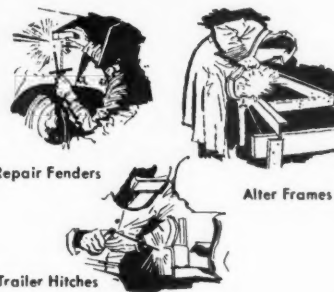
Repairs cracked rim in wheel by butt welding with "Fleetweld 7" using "Lincwelder AC-250-K"

THERE'S BIG BUSINESS IN SMALL SERVICE JOBS

"Lincwelder" makes them more profitable "Lincwelder" boosts your earnings by saving costly man-hours on every service job. That's because "Lincwelder" welds faster, easier . . . welds are more dependable on light body jobs or heavy frames and axles

CHECK LINCOLN'S LOW PRICE before you buy any welder. "Lincwelder" sells for less money than other welders of similar capacity . . . yet gives you extra range, extra capacity not found in other welders.

THE LINCOLN ELECTRIC COMPANY
Dept. 4009, Cleveland 17, Ohio



MAIL NOW

THE LINCOLN ELECTRIC COMPANY
Dept. 4009, Cleveland 17, Ohio

Please send bulletin on "Lincwelder AC-250-K"

Name _____

Address _____

City _____

Zone _____ State _____

LOOK TO



FOR LEADERSHIP

The World's Largest Manufacturer of Arc Welding Equipment

Plymouth Dealer Training Program

Plymouth Motor Corp. recently inaugurated a special training program for newly-appointed dealers. Director of service, W. B. Rice, has sent the first of a fleet of mobile units into the field which will move into the new dealers' service department for on-the-spot training in methods of diagnosing and handling service problems.

The units will be operated by Plymouth service department engineers. Each will carry a complete library of the Master Technicians' Service conference slide films and reference books, along with a slide-film projector, and working models of the various car parts and assemblies to be studied.

85 Spring Tool

York Tool Whse.: The B12 spring tool will remove hood hinge springs on all cars, it is claimed. The hood is first raised. Then the tool is inserted into the coils and when the hood is lowered the spring can be unhooked. The device, it is claimed, can also be used for clutch and other similar springs.

86 Vacuum Cleaner

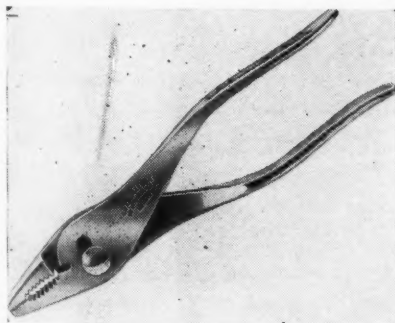
Doyle Vacuum Cleaner Co.: The model 10 vacuum cleaner is a portable unit designed for cleaning cars. It is said to be quiet in operation, light weight and weather-proof. The unit has a 3/4 HP motor and a flexible 100% neoprene hose that is said to be crushproof.

87 Radiator Cores

Lake Auto Rad. Co.: This low priced unit was made to replace radiator cores in cars and trucks having 1/2-in. tubes as original equipment, the maker claims.

88 Pliers

Champion DeArment Tool Co.: To round out its line of tools, this manufacturer has introduced 3



new "Channellock" heavy duty, slip joint pliers. These streamlined pliers are said to have a full-polished steel finish and knurled grips for ease of handling.

89 Exhaust System

Moffatt Prod's: Termed "O-Dor-Vent," this system is permanently mounted on the garage door and is easily attached to the tail pipe of a car for channeling exhaust

fumes from the shop. The system is sold as a package which includes: 2-in. flexible aluminum hose, automatic valve, tail pipe adapter couplings, and spring clips.

90 Anti-Freeze Film

Commercial Solvents Corp.: A continuous distribution of their new Peak and Nor'way anti-freeze film, "Your Moving Targets," has been initiated by this firm. The film is available on a free loan

basis to dealer and jobber organizations, the company states.

91 Rubber Dressing

Martin-Senour: A quick drying black rubber dressing has been marketed by this company. One gallon of "Black Ace" rubber dressing when reduced with eight gal of gasoline makes nine gal of dressing that dries to a flat black sheen, the company says. It is used on tires and floor mats.

(Continued on page 180)

It's a special Fel-Pro formula that makes Felcoid so tough, you can bend it, flex it, fold it, without affecting its sealing power. Because it

SHRINK RESISTANT!

is a homogeneous material, it maintains its shape insuring easy installation. Because this amazing material can be folded to fit into SMALLER

ALWAYS FRESH!

CARTONS, it means easier handling and stocking of entire Fel-Pro Gasket sets... head sets, oil pan sets, full sets and push rod cover sets.

ALWAYS A PERFECT FIT!

... it's a **FEL-PRO** **Felcoid** Oil Pan Gasket!

FELT PRODUCTS MFG. CO., 1521 Carroll Ave., Chicago 7, Ill.

New Products Continued from Page 179

92

Demineralizer

Barnstead S. & S. Co.: Employing a renewable resin purifying cartridge, this battery water demineralizer produces mineral free water without heating or cooling the water, the maker states. No storage tank is necessary and the unit's hose intake has an adapter to fit any faucet. Comes complete

with purity indicating light which tells when to change the cartridge. Each cartridge will purify up to 1,000 gallons.

93

Washing Fixture

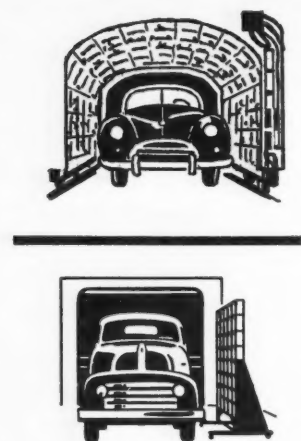
Zierden Co.: The "Water Boy" car washing swivel is an all cast ball bearing fixture that mounts on the ceiling. A vertical water feed

pipe is equipped with an elbow to which an extension arm pipe and a rubber hose can be attached. The bearing of the elbow has a triple seal to prevent caustics from entering and can be lubricated through a grease fitting mounted in the housing, its maker claims. Spindle wear is corrected by replacing a cartridge unit.

94

Oil Dispenser

John Wolf Co.: Designed to provide fast, clean oil service, this company's aluminum oil dispenser is said to fit all cars and trucks.



Since body shop business runs in spurts, your present space, which seemed large enough yesterday, will probably be hopelessly inadequate tomorrow. There is no excuse for any shop being tied up with half-dried paint jobs or deliveries not being made on time, regardless of the weather.

A Durabake infrared unit can increase your present production capacity by 300% or more, assure prompt deliveries without comebacks and improve your reputation for work of consistently high quality. It's your best profit guarantee for today's "customer market."

Contact your jobber today or send in the coupon below for further information on the only complete infrared line in the industry. There's a Durabake unit designed for YOUR shop at a cost much less than you think!

Dept. 116

The Fostoria Pressed Steel Corporation • Fostoria, Ohio

Please send me full information on how I can improve my shop's competitive position without adding to floor space.

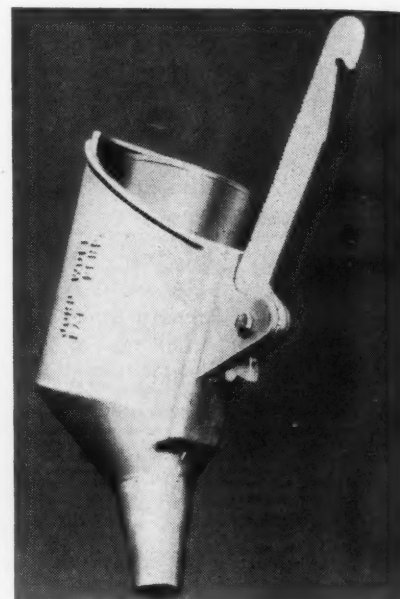
Name _____

Firm _____

Address _____

City _____ State _____

fostoria



After inserting the oil can into the dispenser, the handle is pressed down to puncture the can. The blade is automatically withdrawn by return of handle to its original position, leaving the can free for removal.

95

Outboard Oil

Ott Sales Co.: This company's "dew-coated" lubrication for outboard motors and other marine and car engines is a pure mid-continent base oil that won't burn in an engine. Blended with a special formula it provides a lubrication for outboards that will mix instantly with fuel, reduces friction, prevents formations of carbon and spark plug fouling, and provides cooler running engines, the maker claims.

96

Booster Cable

Black Mfg. Co.: Booster cables for cars and trucks with automatic and standard transmissions are being marketed by this firm. Included in the sets are two 8 foot oil- and moisture-resistant cables, copper-clad clamps and colored, insulated handles which provide polarity identification.

97

Compressor

Quincy Compressor Co.: Designed for mounting on tire-servicing trucks this compressor is one of the latest Quincy models. The unit's pressure is automatically maintained by a constant speed unloader. According to the maker, this unit unloads the compressor and lets it idle when the pressure is up. As soon as the pressure drops below, the compressor automatically loads up to pump more air, it is stated.

98

Camber Tool

Jibo Tool Co.: This camber correction tool, for increasing camber on Ford ball joint spindles and other cars, includes a head that fits most makes of camber tool arms. It eliminates short bends, requires less power and works with either a screw, ratchet or hydraulic jack, the company claims.

99

Welder Combination

Marquette Mfg. Co., Inc.: A gas driven AC welder and power plant combination called the Porto-Arc has been announced by this company. Featuring an Onan engine, the unit, it is said, gives up to 200 amps of welding current

at 100 per cent duty cycle plus a power source of 4½ K.W. at 110-220 volts for operation of heavy duty power tools or lighting circuits.

100

Combination Wrench

J. E. S. Co.: The "Inca Quickie" (10-way) wrench accommodates 95% of all nuts and bolts up to 19/32 inches wide, in 10 different sizes, the maker claims. Nickel and chrome plated, the wrench is 4

inches long x 1 inch wide, and it weighs 2½ ounces.

101

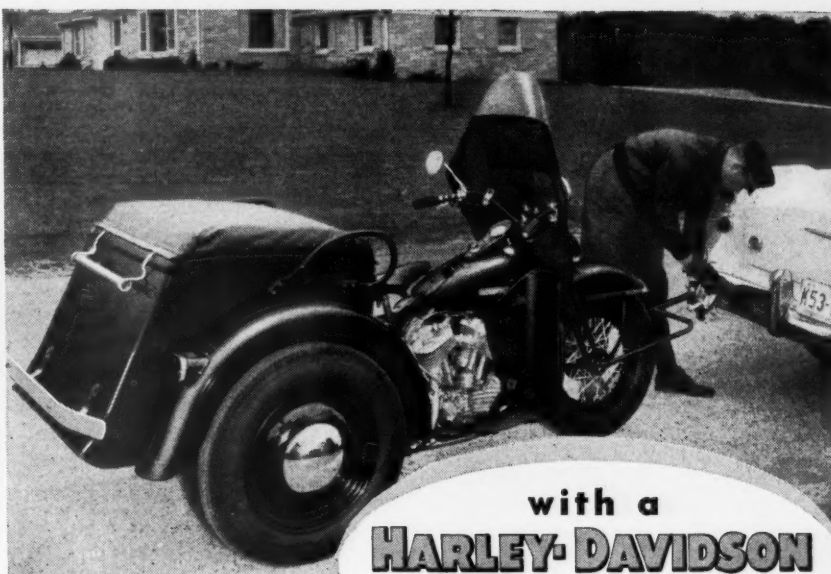
Lacquer Thinner

Acme Quality Paints, Inc.: Lacquer color thinned with Proxlin Triple 'S' lacquer thinner is said to do a job in two coats. Lacquer reduced with this thinner is applied heavier and troubles with spray dust and overspray are claimed to be eliminated. Less thinner is used

(Continued on page 182)



Fast pick-up and delivery service BUILDS CUSTOMER Good-Will



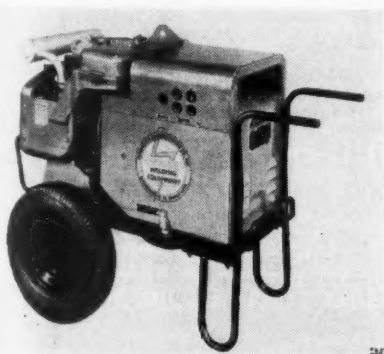
with a
**HARLEY-DAVIDSON
SERVI-CAR**

Here's how the SERVI-CAR helps you to bigger profits!

- Keeps business rolling in all year 'round.
- Builds good will with convenient service.
- Gets jobs in and out of the shop quickly.
- Provides continuous advertising wherever it goes.
- Saves time on errands for parts and accessories.
- Keeps costly shop and service equipment busy.
- Gives safe, economical, easy-to-operate service.

From coast to coast, users tell us this three-wheeled "business go-getter" gives their shops a reputation for speedy, on-time service. And, the Servi-Car adds many square miles to their service territories. That means more new customers and more repeat business that keeps costly service and repair equipment profitably busy. Ask your Harley-Davidson dealer for your FREE copy of the booklet: "It Pays to Give Service." And see how you can increase your service profits and build good will with the Servi-Car. Or write: HARLEY-DAVIDSON MOTOR COMPANY, Department MA, Milwaukee 1, Wisconsin.

SERVI-CAR SERVICE SELLS MORE SERVICE



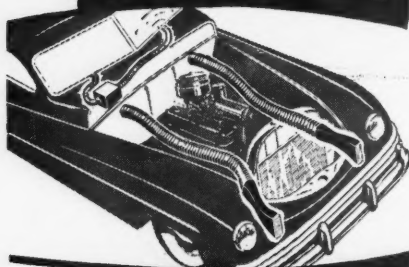
You can **SELL MORE**

WIREMOLD Air Duct and Defroster Hose for replacements

because

WIREMOLD is original equipment on America's leading automobiles!

This rugged, sturdy duct is best for replacements — and it's a good profit maker for you, too. You'll like working with it — you can bend it double without kinks, and you'll always get a tight, snug fit!



- Fits every make and model
- Easily bends 90° - 180°
- Easiest to cut & handle
- Resists cold-heat-oil-water
- Saves 50% storage space — 6' lengths retract to 3' in package

Write for full information.



This Display will **SELL**
AIR DUCT for you!

Order this WIREMOLD AIR DUCT & DEFROSTER HOSE DISPLAY PACKAGE today! Contains one 6-foot length of each of the 6 most popular sizes. Attractive 2-color Display is FREE!

The **WIREMOLD** Company
HARTFORD 10, CONNECTICUT

New Products . . .

Continued from Page 181

to get minimum viscosity with maximum solvency, according to the company.

102

Compression Tester

Fisher Products Corp.: A permanent record and accuracy of the engine test made are features of the MoTest recording compres-



sion tester. The claim is made that a special angular adapter extension makes this tester usable on the new V-8's of Ford, Lincoln and Mercury. In addition to the pistol grip compression tester and angular adapter extension the MoTest kit includes an extension adapter, spare rubber cones and valves, and a supply of recording charts.

103

Fuel Lines

Weatherhead Co.: Newest development in this company's stock assortments is a series of three Fleetliner Hose Service Kits. According to the maker, they are designed to permit on-the-spot replacement of gas, oil, and diesel fuel lines on trucks, buses, and die-



KING

NEVER ANYTHING TO COMPARE



MODEL
BC-57
\$125.00

FAST BATTERY CHARGERS

FOR ALL

6/12 VOLT

FAST CHARGING REQUIREMENTS

Your best battery salesman is the "KING" BC-53 DeLuxe 6/12 volt charger with individual cell analyzer.

For down-to-earth value see the "KING" BC-57 (illustrated) and Model BC-54 Little Giant 6/12 volt fast charger, only \$49.50.

A complete "KING" catalog—yours for the asking!

OTHER KING PRODUCTS

Engine Analyzers • Distributor Testers
Generator Test Stands • Growlers

Universal Compression Gauges
Power Timing Lights

KING ELECTRIC EQUIPMENT CO.

9123 INMAN AVE.,

CLEVELAND 5, OHIO

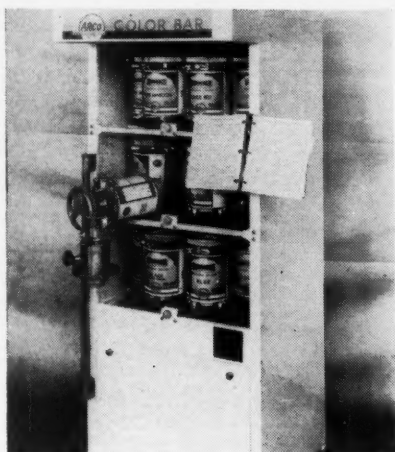
sel engines. Each kit contains 25 feet of heavy-duty hose and a stock of reusable brass couplings and adapters.

104 Fuel Pump Digest

Kem Mfg. Co. Inc.: Just released is a 4 page digest called "How to Test Fuel Pumps." The bulletin contains latest detailed and illustrated instructions on correct vacuum and pressure testing. In addition it describes the use of a new tester with a neoprene "Bow-tie" adaptor for on-the-car service.

105 Color Bar Catalog

Arco Co.: Three types of color machines for lacquer or enamel, sized to fit a shop's refinishing



volume, are described in catalog pages recently issued by the maker. These pages describe each machine in detail. Mechanical advantages are pointed out and a picture sequence shows how the machine is operated.

106 Brake Reliner

Chicago Rivet & Machine Co.: The "Chicagoan," a heavy-duty brake reliner, is now being marketed by this company. It features a double column with separate delining and riveting stations as well as a foot operated driller and swivel driller grinder. This machine has a riveting throat 7 inches deep and is equipped with 6½ inch or 7½ inch rubber cushioned abrasive, it is said.

107 Tool Catalog

Heller Bros. Co.: Printed in 2 colors and illustrated this catalog is completely indexed and made especially to fit the jobbers' large counter catalog. Products included are: Vixen files, Vixen handles; Nucut American pattern files, hammers, dolly blocks, spoons, body bumping files and rotary files.

108 Compressor

Keystone Compressor Co.: This firm announces two new air com-

pressors. The Air-Commander 3 H.P. and the Typhoon 5 H.P. are both two stage units. These units have three moving parts which are said to be flooded with a gallon of oil every three minutes. These units do not contain wrist pins, connecting rods, rod bearings, or oil lines, the firm claims.

109 Electric Catalog

Auto Lamp Mfg. Co.: An eight-page illustrated catalog has been produced by the Alco division of
(Continued on page 184)

it takes all 3

for Maximum Ignition Sales
with
Maximum PROFITS!

PRODUCT

Guaranteed's complete line of Ignition parts are specially engineered for REPLACEMENT use, to REPLACEMENT specifications. Covers all ignition systems. Built for longer life, trouble-free performance.

PRICE

Guaranteed's competitive pricing gives you added selling ammunition, yet allows a more ample mark-up. You profit 2 ways:
More sales with faster turnover — more profit on every sale.

PROGRAM

Guaranteed's merchandising program offers you a wealth of profit stimulators. Ignition inventory control, displays, merchandising sales aids, a national consistent advertising program at every level.

Only Guaranteed gives you this unbeatable Triple Combination!

GUARANTEED PARTS CO. INC.

IGNITION PARTS - WIRE AND CABLE

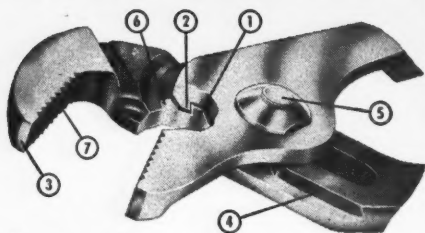
SENECA FALLS, NEW YORK

You need fewer
tools when you
use . . .



CHAN NEL LOCK

pliers



here's why

1. Interlocking principle prevents slipping under any load. 2. New type wide base lugs cannot shear. 3. New nose design for gripping small objects. 4. Patented design of tension edge eliminates stress concentration at channels. 5. Interlocking design minimizes stress on joint bolt. 6. Precision machined interlocking surfaces result in perfect fit, distributing pressure evenly. 7. "Rite Angle" teeth guarantee maximum bite and minimum wear.

Look for the Channellock line when you're shopping for hand tools. Channellock pliers offer features that you can't get with other makes. And when you buy a Channellock plier, ask to see the full line—you'll find a style and model to do any job better.



CHAN NEL LOCK

THE PLIER DESIGN THAT OBSOLETE ALL OTHERS

CHAMPION D'ARMENT TOOL CO. • MEADVILLE, PA.

New Products . . .

Continued from Page 183

this corporation. Packed into the catalog are descriptions and illustrations of the complete ALCO line including new items recently introduced to the market. Automotive lighting replacement parts and new equipment are both featured.

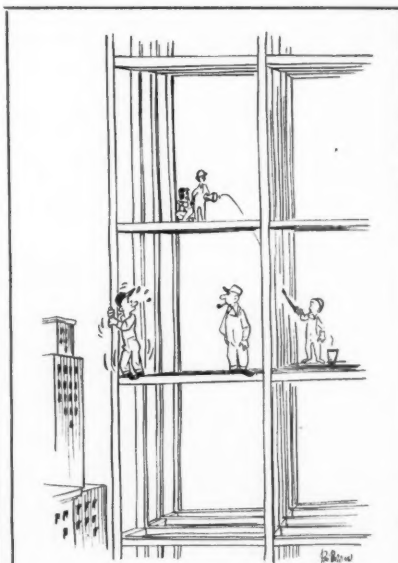
110 Speedometer Lube

M. Diamond & Co.: Said to prevent speedometer cable breakage Cab-L-Ube is a one shot lubricant



for all makes of speedometers. The product is said to eliminate noises, prevent erratic performance and require no mechanical skill or tools to apply.

(Continued on page 186)



"I don't know which makes me most nervous . . . when I look up or when I look down!"

"I've quit searching
for tools since
I've had my

**HUOT
TULDEX"**

. . . says Henry Rigelhof,
Assistant Service Manager
for Whitcomb
and Bick,
Minneapolis'
oldest
Pontiac
dealer.



"The pull-out feature sure beats drawers for storing tools. They're always orderly and at finger-tip reach," according to this practical mechanic.

Since its introduction, the Tuldex has become the hottest item in the tool chest line. An entirely new idea for protecting and locating tools, it puts the master mechanic on a professional basis.

Six tool holding panels, 12" x 18", swing out on separate tracks. Holes drilled in the pegboard hang each tool on its separate mounting. There are more than 24 square feet of storage—twice as much as the average tool chest!

The heavy steel cabinet is fitted with top and bottom locks and the big drawer is just the right size for power tools. 29" x 26" x 13 $\frac{3}{4}$ " overall.

Inquire from your jobber, or write for descriptive circular.

HUOT

Pronounce
it "Hew-oi"

HUOT MANUFACTURING CO.

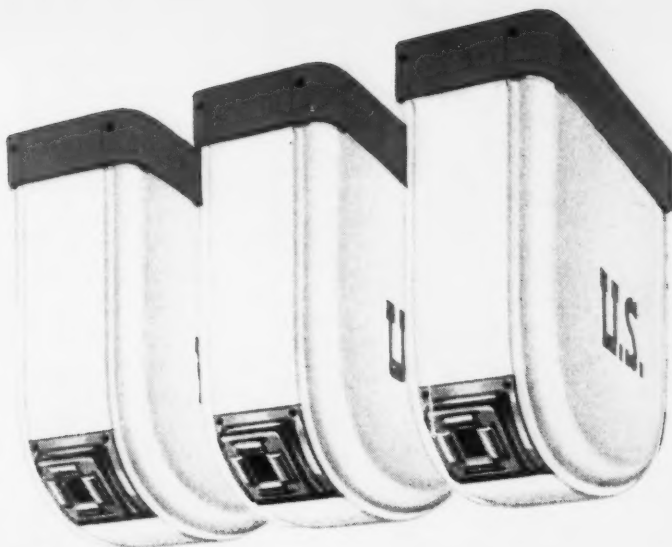
585 No. Wheeler St.
St. Paul 4, Minn.

U.S.

HOSE REELS

Clean, Compact, Convenient

TO FIT ANY PLAN—IN ANY DESIRED COMBINATION OF INDIVIDUAL REELS



HIGH PRESSURE
CHASSIS LUBE



LOW PRESSURE
GEAR LUBE



AIR



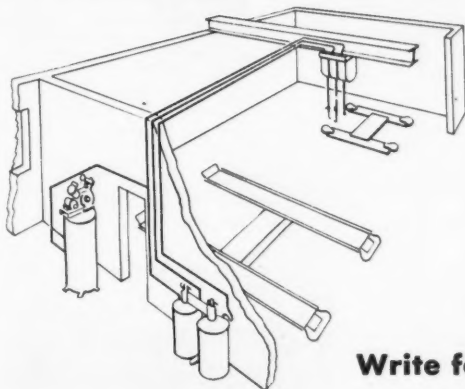
OIL



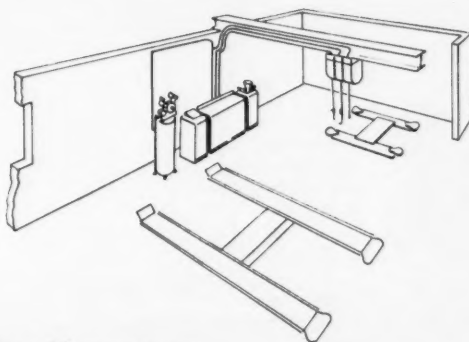
WATER

—With Lubricant Supplied By Powerful U. S. Pumping Systems

With Grease Drums in Separate Lube Room



Where Separate Lube Room is not Available



Write for Descriptive Literature

AIR COMPRESSORS • HYDRAULIC LIFTS • LUBRICATING EQUIPMENT
UNITED STATES AIR COMPRESSOR CO.

5300 HARVARD AVENUE • CLEVELAND 5, OHIO

NEW Sprayon PLASTIC SEALER



...with
100%
Acrylic
Base

**SPRAYS A CLEAR, PROTECTIVE
COATING INSTANTLY THAT**

INSULATES

WATERPROOFS...

- Ignition and Spark Plugs
- Battery Cables and Wiring
- Metal Trim and Accessories

also ideal for TV-RADIO antennas, parts and wiring...protects, woodwork, blueprints, etc.

A real timesaver for your own shop work—a proven money-maker as an add-on sales item—Champion Sprayon Plastic Sealer with crystal clear acrylic base serves countless uses in the automotive trade. Sprayon Plastic Sealer is high in dielectric strength—sprays on any surface—dries quickly to a non-tarnishing, flexible finish. Insulates ignition and wiring against short circuits and damaging corrosion...protects inside and outside chrome trim and accessories.

Available in handy 12-oz. aerosol can with patented non-clogging nozzle that takes only fingertip pressure for instant and sure application. This tool kit size container is popular with mechanics for on-the-job portability. Plastic Sealer also available in bulk with special Plastic Reducer.



NEW Display Material

Eye-catching,
compact counter
displays for your
dealers. Ask
about Champion
Deal #500.

Champion also makes the complete line of 38 Sprayon automotive Enamels—also Aluminum, White and Black Lacquers that are gasoline and oil resistant—Zinc Chromate Primer to prepare metal for quick, easy touchup. See your jobber or write direct.

REPS—Some territories still available.

Champion Bronze Powder & Paint Co., Inc.

2101-2121 N. Elston Ave., Dept. MOTO, Chicago 14, Ill.

New Products...

Continued from Page 184

111 Lube Control

Stewart-Warner Corp.: "Pressurtrol" which provides instant restoration of full pressure at the control valve is being introduced by this company. The unit is provided with the super H pump, a new 70 to one ratio pump with a three inch air motor, providing a controlled pressure range at the control valve of 6,000 to 7,000 pounds. With Pressurtrol it is possible to lubricate a car or truck in a third less the normal time, the company states.

112 Hand Cleaner

Lucas Prod's Co.: A waterless hand cleaner called "Tem" has been introduced by this company. It is a cream-type cleaner containing lanolin and an antiseptic known as PCMX. Tem is said to be fast and safe for the hands, leaves no greasy film and prevents roughness and chapping.

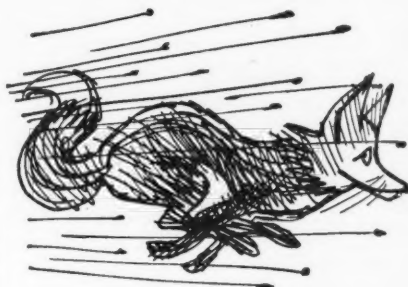
Bryan Sets Mark In '54 Competition

Jimmy Bryan was presented with a diamond-set, gold and platinum Championship Award medal, symbolic of his 1954 AAA Race Driving National Championship, recently by AAA contest board chairman Col. A. W. Herrington. The presentation was made to the Phoenix, Ariz., driver before assembled members of the racing fraternity and the press during the Open House Luncheon, at the Ambassador Hotel, in Los Angeles, California.

Also receiving diamond-studded medals were Manuel Ayulo, Burbank, Calif., who finished second in the National Championship standings, and Jack McGrath, Glendale, Calif., third-place winner.

The 27-year-old Bryan, known as the "Phoenix Flyer," established a modern era point total record in 1954, winning five 100-mile races and finishing second in the "500" for 2,630 points—more than any driver has earned in a single season since 1926.

VIXEN files have many lives



The milled curved teeth on Heller Vixen files may be re-sharpened many times, giving you a number of files at a great saving for every one you buy new. Vixen teeth are actually miniature milling cutters, working faster, freer, smoother than any other file in the auto body industry. Available in both flexible and a wide variety of rigid types for all auto body manufacture or repair work. It's the original and still the best.

HELLER BROTHERS CO.
America's Oldest File Manufacturer
NEWCOMERTOWN, OHIO



Your Heller Distributor Can
Supply All Your File Needs

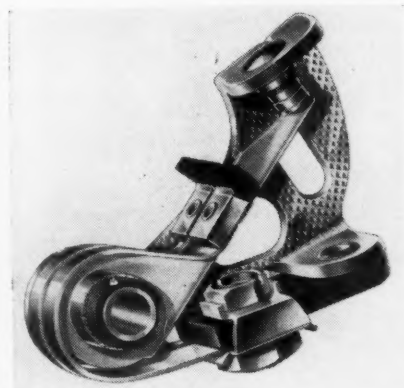
**ONLY HELLER
MAKES THE VIXEN**

VIXEN, NUCUT and
American-Swiss
are made only by



113 Ignition Contacts

F and B Mfg. Co.: Nylon is being molded for the rubbing block in this company's pre-set contact combinations. In addition stain-



less steel is being used as contact spring material because it is rust resistant and maintains tension under operating extremes. A further claim is that the ignition contact is a one piece unit, factory adjusted, ready for installation.

114 Seats and Guides

Rich Mfg. Corp.: Rich announces, as an addition to its line of RMC replacement valves, a complete line of valve guides and seats. Coverage in the heavy duty, industrial and truck fields as well as passenger cars is offered. The seat rings, it is said, come in two types—cast for standard applications and hard alloy for heavy duty use.

115 Brake Fluid

E. I. DuPont Co.: Brake fluid in both moderate and heavy duty grade is the latest addition to this company's No. 7 line. These fluids will not form a vapor lock or boil off when subjected to the heat generated by breaking systems, it is claimed. In addition, it is said that these fluids will remain liquid at below zero temperatures, won't affect rubber parts and are non-corrosive to metals in the system.

116 Weather Stripping

Durkee-Atwood Co.: An assortment of Dor-Tite, a sponge rubber

weather stripping, is built into a counter top merchandiser. The assortment consists of 14 ten foot rolls of five sizes of standard stripping. Also, there are six 7½ foot rolls of molded Dor-Tite in two sizes that are said to replace most car door and trunk gaskets.

117 Rivet Punch

Brake Parts Specialty Co.: It is claimed that this punch eliminates the drilling of brake shoes for

riveting. The main body of the unit is made of a single piece of solid steel, and the punch has a centering point for easy alignment. With this punch, riveted lining can be installed in a matter of minutes, the maker claims.

118 Spacer Rings

Snugl Wheel Weight Mfg. Co.: This company introduces a line of rubber contour spacer rings. It is
(Continued on page 191)

Parts Master "Pict-O-Poem"

DIRTY PART ...



TAKE HEART ...



DUNK SCREEN ...



Ready to use — Right in the pail. Can be used over and over again.

IT'S CLEAN!

... SEE IT GLEAM



Parts Master is the most powerful and most efficient metal parts cleaner ever developed.

(Available in 3 and 5 Gallon Pails with or without Dunking Screen)

Needs no special rinsing compound. Always Ready to Use

RUST MASTER — CARB MASTER — SLUDG-MASTER — LEAK MASTER

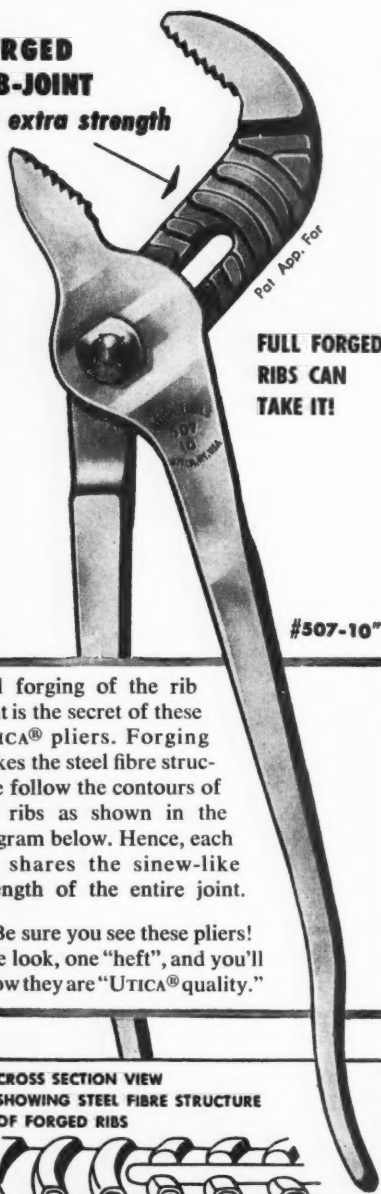


PRODUCTS WORK WHILE YOU RIDE
Chemical Company
Mfg. Chemists

56 CRIGHTON ST., CAMBRIDGE, MASS.
THE SILENT PARTNERS OF MOTOR EFFICIENCY

UTICA® NEW RIB-JOINT PLIERS

**FORGED
RIB-JOINT
for extra strength**



**FULL FORGED
RIBS CAN
TAKE IT!**

#507-10"

Full forging of the rib joint is the secret of these UTICA® pliers. Forging makes the steel fibre structure follow the contours of the ribs as shown in the diagram below. Hence, each rib shares the sinew-like strength of the entire joint.

Be sure you see these pliers! One look, one "heft", and you'll know they are "UTICA® quality."

**CROSS SECTION VIEW
SHOWING STEEL FIBRE STRUCTURE
OF FORGED RIBS**



STRONG BECAUSE STEEL FIBRE STRUCTURE IS COMPRESSED AND FORCED TO FOLLOW CONTOUR OF RIBS

IT PAYS TO USE QUALITY TOOLS
and the world's best tools are made in U.S.A.



In Canada
ADLAM TOOL & SUPPLY CO., LTD., MONTREAL

American Motors . . . Continued from Page 51

power is 104 bhp at 4,000 rpm. With Twin H-Power, the compression is increased to 8:1, and hp to 114 bhp at 4,000 rpm.

The front end treatment of the 1955 Hornets and Wasps features a massive grille of one-piece die-cast construction. The Hudson crest is centered in the upper frame.

Both cars feature wrap-around windshields. The corner posts are vertical and located to provide maximum obstruction-free vision. A broad chrome moulding encircles the windshield. The air intake extends the entire width of the hood at the cowl. Both front and rear bumpers are of new, full wrap-around design.

The Hornet and Wasp series will be offered in four models, including four-door family sedans and hardtops. The wheelbase of the Hornet is 121¼ inches; overall length, 209¼ inches; height, 62¼ inches; and width, 78 inches.

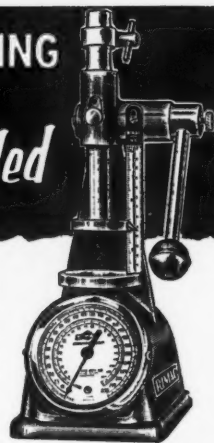
The Wasp's wheelbase is 114¼ inches; overall length, 202¼ inches; width, 78 inches; and height, 61¾ inches.

Rounding out the Hudson line for 1955 are the Rambler and Metropolitan series.



"Now, pulleze, none of your sudden starts and stops."

**RIMAC SPRING
TESTERS** *Come
Highly Recommended*



Manufacturers of automobiles, trucks and farm machinery have made Rimac Valve and Clutch Spring Testers standard plant equipment—recommend them for service and overhaul operations.

Etched metal scale at sides indicates exact length of spring; adjustable stop allows quick testing of an entire lot. Suitable for springs up to 2 inches diameter, 4½ inches length—capacity 0-250 lbs.

Ask your jobber or write for literature.

**RINCK-McILWAINE
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YOU GET IT ALL in the BIG

Chilton's MOTOR AGE FLAT RATE AND SERVICE MANUAL

- Car Model Identification Pictures
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Smooth Rollers

make Tubeless Tire Service
SAFER • FASTER • EASIER

COATS IRON TIREMAN



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\$109⁵⁰

**NOW PORTABLE
NEW Roll-a-way
BASE OPTIONAL**

Only the Coats Iron Tireman safely ROLLS tubeless tires on and off the rim. This exclusive Roll-R principle is the big reason why more service stations use the Coats Iron Tireman for tubeless tire service than all other brands combined. You get smoother, safer tire changing that saves work, saves time . . . makes tubeless tire service really profitable. And, the Coats two-way bead unlocker babys the beads on tubeless tires . . . unlocks them gently, firmly without beating, pounding. Give your customers the best in tubeless tire service with the Coats Iron Tireman. Approved by all leading tire manufacturers and oil companies.

New . . Coats Tubeless Tire Mounting Band



. . . and the Coats Iron Tireman . . . the perfect pair for finest tubeless tire service. Seals beads for inflating. Easier-to-use . . . adjusts to fit all tubeless passenger car tires. A "must" for tubeless tire service.

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JACK P. HENNESSY SALES COMPANY

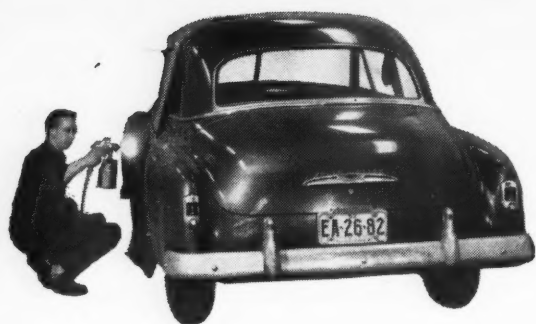
Specialists in Tubeless Tire Service

12 DEPOT SQUARE, ENGLEWOOD, NEW JERSEY

COATS COMPANY

FORT DODGE, IOWA

Pioneer Manufacturers Of A
Full Line Of Tubeless Tire
Service Equipment



"You can't beat a DeVilbiss gun for spraying lacquers or synthetics"

says Fred Rabe of Row Motor Sales, Grand Rapids, Michigan

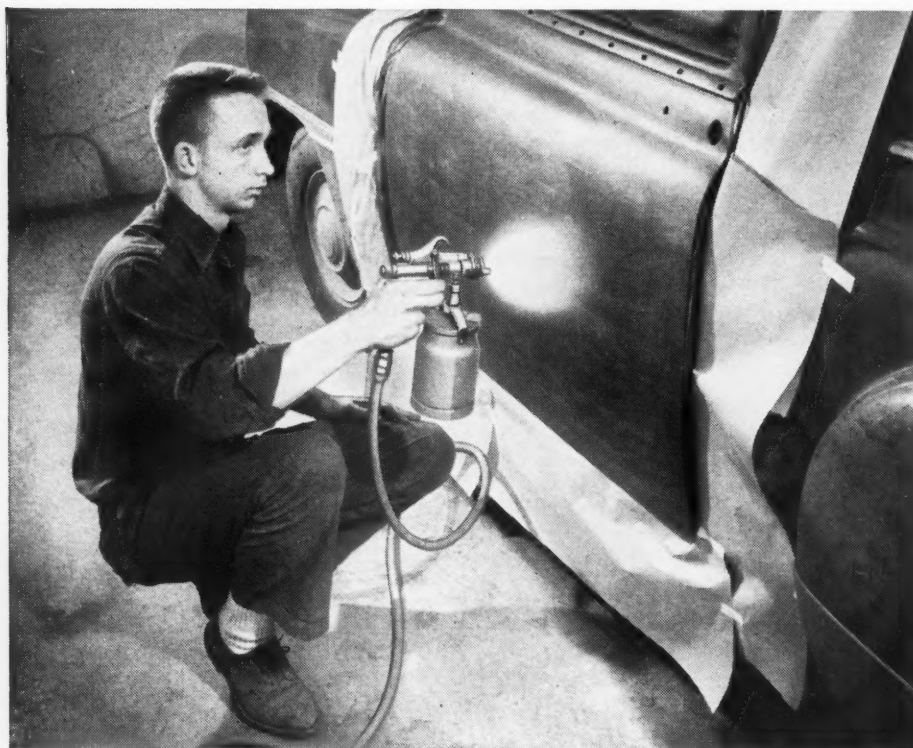
Fred Rabe works in a busy bump-and-paint shop that handles 7 to 10 spray jobs of all kinds every day. A large part of his work is reconditioning used cars to speed resale. Fred says:

"I have a lot of confidence in my DeVilbiss spray gun. You see, I never know whether the next car I repaint will be a lacquer or synthetic job. But, with either material, I get a swell finish.

"I like the fine adjustment of the gun. It gives me complete control of the amount and break-up of paint I spray, as well as the size and shape of the pattern. Once I adjust it, the gun *stays* adjusted.

"And it's easy to use, too. The light weight, the fine balance and the smooth trigger action take a lot of the load out of my work. The removable head saves time."

Like Fred Rabe, thousands of topnotch painters are benefiting customers and themselves by using DeVilbiss methods, and service equipment. Many are learning the latest spraying techniques at the tuition-free DeVilbiss school. Your DeVilbiss jobber can give you full information on the many services available. Call him today, or contact our branch office or factory.

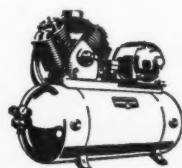


Painter Fred Rabe prefers a DeVilbiss gun because of its fine adjustment and easy handling.

THE DEVILBISS COMPANY, Toledo, Ohio

Barrie, Ontario • London, England • Santa Clara, Calif.

Branch Offices and Distributors in Principal Cities Throughout the United States, Canada and the World.



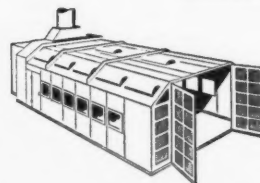
Air Compressors



Spray Guns



Hose and Connections



Spray Booths

FOR BETTER SERVICE, BUY

DEVILBISS



said that one diameter size fits all cars using standard coil springs. The device is supplied in four thicknesses. Made of solid natural rubber they are formed to fit the well of the A frame and grooved to fit the spiral of the spring.

**119
Display Cabinet**

Murray Corp.: A metal stock display cabinet named the "Profiteer" displays and stocks 100 Gold Seal Worm Drive hose clamps in four sizes. The clamps contained in the cabinet fit all cars and most trucks, it is said. Space is provided in the back for a reserve supply. The cabinet is 6 inches wide, 12 inches deep, and 18 inches high, of steel construction.

**120
Brake Debonder**

Star Machine & Tool Co.: The cold method is used for removing old brake linings with this debonding machine. An old lining is removed in 15 to 30 seconds per shoe, with no dust, and no shoe distortion, according to the company. There is a power model and a hand operated unit. The Star debonder will handle all passenger cars and light truck brake shoes.

**121
Brake Lining**

Johns-Manville: This maker's Custom 4-Star Brake Lining is made of metallic-impregnated asbestos fibers. Molded under high compression, this material is not sensitive to temperature or moisture conditions and will maintain its friction stability, it is claimed.

**122
T-less Tire Tools**

Bishman Mfg. Co.: Equipment for mounting, de-mounting and testing tubeless tires, has been introduced by this manufacturer. The tools include: a bead ex-

pander, a bead breaker that rolls the bead off the rim instead of pushing it off, a tubeless tire tester on which a mounted tire is rotated in a water tank, and an electric tire changer.

**123
Wrecker Body**

Ernest Holmes Co.: This company's new wrecker body is wide enough to permit the front end of a damaged car to be pulled up and into it. The body with its low side panels and heavy flooring provides a substantial base for wrecker operation. The new body can be installed on any standard truck with a cab-to-axle dimension of 84 in., it is claimed.

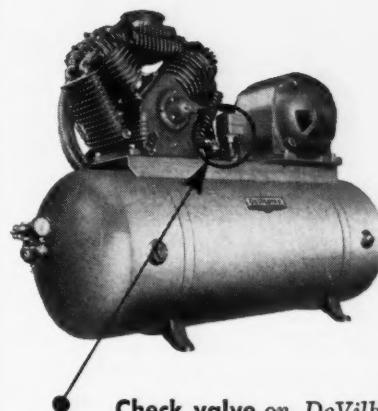
**124
Valve Lifter Tester**

Kent-Moore Org.: A hydraulic valve leakdown tester featuring universal application and accuracy has been marketed by this company. The tester includes sleeve and ball adapters to make it applicable to all of the valve lifters currently in use, according to the maker. Further, the tester has been engineered to provide adaptability to future valve lifter design changes.

(Continued on page 192)



Want more air for your money?



Check valve on DeVilbiss compressor outfits securely seals air in tank. Manifold is finned for additional after-cooling; provides mounting for pressure switch, eliminating piping and additional tank openings.

If you're losing on power, upkeep and depreciation, then it will pay you to replace your old air compressor with a new DeVilbiss outfit. By actual tests, you'll get as much as 22.6% more air per power dollar. DeVilbiss efficiency means high actual delivery.

In addition to check valves, every DeVilbiss compressor includes: A.S.M.E. approved tank, automatic pressure switch, diamond-bored pistons, cylinder head with removable valves, quality electric motor or gas engine.

Contact your local DeVilbiss jobber for help in analyzing your compressed air problems.

THE DEVILBISS COMPANY

Toledo, Ohio

Santa Clara, Calif. • Barrie, Ontario
London, England

Branch Offices in Principal Cities

FOR BETTER SERVICE, BUY

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BOWERS BATTERIES

Always Better

BOWERS BATTERY & SPARK PLUG CO., READING, PA.

Lasco

SINCE 1908
See this ad in a 1000 places

MOUNTAIN MASTER

BRAKE LINING

America's Finest!

From Hollywood to Manhattan—Demanded by Fine Car, Bus and Heavy Transportation Owners. Get the BEST for a Few Cents More. Cut Costs—Prevent Accidents—Save Lives! Dealer inquiries are invited. Write or wire. **LASCO BRAKE PRODUCTS CORP.** MEMPHIS 3, TENN. OAKLAND 7, CALIF.

MOTEST

NEW PISTON GRIP RECORDING COMPRESSION-TESTER

Double Your Service Sales With

MOTEST RECORDING Compression Tester

■ Here it is at last, a tester that shows cylinder compression and automatically records the readings on a permanent chart. MoTest is a valuable new tool for mechanics, fleet owners and motor enthusiasts. It provides accurate, impartial proof of engine condition and need for overhaul. Recording new test after overhaul shows customer amount of improvement! Kit includes supply of charts, spare parts, and complete set of adaptors to fit all cars including the latest, hard-to-get-at Ford line V-8's. See your jobber today!

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21-31 44th Drive • Long Island City 1, N. Y.
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New Products . . .

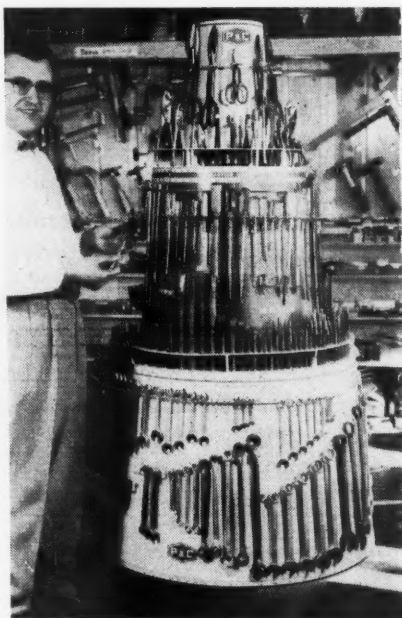
Continued from Page 191

125 Impact Tool

Ingersoll-Rand Co.: A rotary electric Impacttool has been developed by this company. It is said to provide sufficient power to handle all but the largest nuts and bolts on cars. The tool has a ½-in. drive and weighs 6½ lbs and is said to carry more power than other tools in its size and weight class.

126 Tool Merchandiser

P & C Tool Co.: According to the maker the Jet-350 revolves at finger touch. Every tool is shadow



marked and priced for identification and easy restocking. The display takes 45 in. of space, displays 350 hand tools and is 75½ in. high. Said to aid sales because they put the tools out in high traffic spots where customers can see them.

127 Tube Bending Set

Owatonna Tool Co.: A set of tools for flaring, cutting and bending copper tubing from 3/16 in. to 5/8 in. in seven sizes of standard thin-wall untempered tubing has been marketed by this company. The set consists of a flaring tool, a tubing cutter with a capacity

from 3/16 in. to 1 in. and a set of six spring steel coiled sleeves which permit bending copper tubing without collapsing or buckling it.

128 Vacuum Cleaner

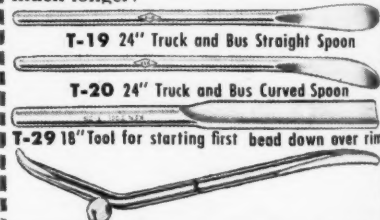
Breuer Electric Mfg. Co.: This company's heavy duty "Auto-Vac" (Continued on page 195)

USE
ATI HEAVY DUTY
"ENGINE MATED"
TRUCK & BUS REPLACEMENT
MUFFLERS
and
ATI
low cost DUAL WHEEL
DOLLIES

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ALEXANDER-TAGG INDUSTRIES INC.
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**Speed Truck
Tire Changes**
JOB-DESIGNED
WITH **KEN-TOOLS**
EASIER . . . QUICKER

Quality tools for trucks, buses, farm tractors, and aircraft. Hand forged from chrome nickel alloy steel. Tougher, last much longer!



T-48A 40" Tool for removing and replacing lock rings
JOB-DESIGNED
KEN-TOOL LOCK RING REMOVERS
stand up under tremendous leverage



SEE YOUR JOBBER on the complete line of Job-Designed Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. **THE KEN-TOOL MFG. CO., AKRON 5, OHIO.**



Calendar of Coming Events

Dealers Conventions

- Jan. 29-Feb. 2—NADA Annual Convention, Hotel Conrad Hilton, Chicago.
- Feb. 28-Mar. 1—Louisiana Automobile Dealers Association Annual Convention and Exhibit, International Room, Hotel Roosevelt, New Orleans, La.
- Sept. 16—Nebraska New Car Dealers Association, Paxton Hotel, Omaha.
- Sept. 16-17—New Mexico Automotive Dealers Assn., Nickson Hotel, Roswell, N. M.
- Sept. 18-20—32nd Annual Convention, New York State Automobile Dealers, Inc., Saranac Inn, Saranac, N. Y.
- Sept. 19—Minnesota Automobile Dealers Association, Radisson Hotel, Minneapolis.
- Nov. 13-14—20th Annual Convention, Auto Dealers Assn. of Alabama, Tutwiler Hotel, Birmingham, Ala.

Automobile Shows

- Jan. 8-16—Chicago Auto Show, International Amphitheater, Chicago.
- Jan. 8-16—Washington, D. C., Auto Show, Washington.
- Jan. 10-16—Grand Rapids Auto Show, Grand Rapids Civic Auditorium, Grand Rapids, Mich.
- Jan. 15-22—Rochester Auto Show, Rochester Armory, Rochester, N. Y.
- Jan. 21-29—Indianapolis Automobile Show, Manufacturers Bldg., Indiana State Fair Grounds, Indianapolis.
- Jan. 21-30—Seattle Automobile Show, Seattle Armory, Seattle.
- Jan. 21-30—Los Angeles Automobile Show, Pan Pacific Auditorium, Los Angeles.
- Jan. 22-29—Baltimore Automobile Show, Fifth Regiment Armory, Baltimore, Maryland.
- Jan. 22-30—St. Louis Automobile Show, Kiel Auditorium, St. Louis.
- Jan. 29-31—Tri-State Auto Show, Evansville Automobile Dealers Assn., Evansville Armory, Evansville, Ind.
- Jan. 29-Feb. 5—Rochester Auto Show, Rochester Armory, Rochester, N. Y.
- Jan. 29-Feb. 6—Detroit Auto Show, Michigan State Fair Grounds, Detroit.
- Jan. 29-Feb. 6—Quad-City Autorama (Davenport, Iowa; Rock Island, Moline, East Moline, Ill.), Rock Island Armory, Rock Island, Ill.
- Feb. 2-6—San Diego Automobile Show, Electric Bldg., Balboa Park, San Diego.
- Feb. 5-12—Milwaukee Auto Show, Milwaukee Auditorium, Milwaukee.
- Feb. 5-12—Des Moines Automobile Show, Veterans Memorial Auditorium, Des Moines.
- Feb. 5-12—Buffalo Automobile Show, Masten Ave., Armory, Buffalo.
- Feb. 6-13—Schenectady Auto Show, Schenectady Armory, Schenectady, N. Y.
- Feb. 8-13—Omaha Auto Show, Omaha Auditorium, Omaha.

- Feb. 13-20—San Francisco Auto Show, San Francisco Civic Auditorium, San Francisco.
- Feb. 20-27—Syracuse Auto Show, Syracuse, N. Y.
- Feb. 24-27—Sioux City Automobile Show, Sioux City Municipal Auditorium, Sioux City, Iowa.
- Feb. 26-March 5—Kansas City Motor Car Show, Exhibition Hall, Municipal Auditorium, Kansas City, Missouri.
- March—Lewiston Automobile Show, Lewiston Armory, Lewiston, Maine.

March—Spokane Automobile Show, Spokane Coliseum, Spokane, Washington.

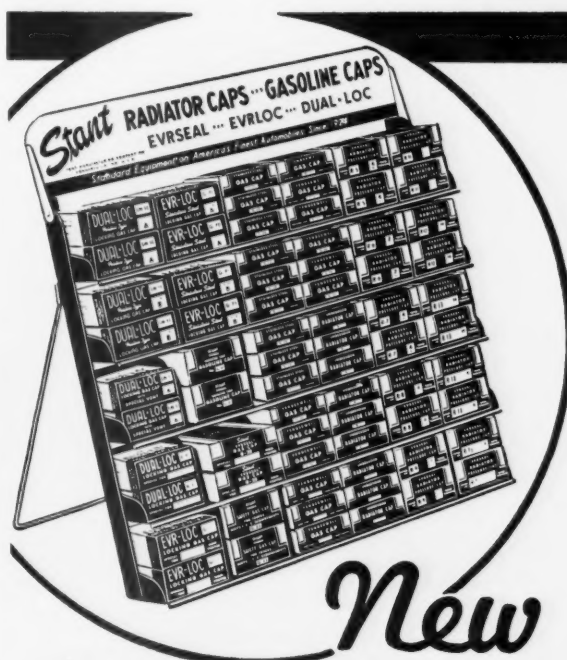
March 4-6—3rd Annual Kansas Automobile Show, Hutchinson Sports Arena, Hutchinson, Kansas.

March 29-Apr. 3—Sacramento, Auto Show, Civic Auditorium, Sacramento, California.

Apr. 20-23—Danville Auto Show, Danville, Virginia.

General

Mar. 16-18—11th Annual Canadian Automotive Service Show, Automotive Bldg., C. N. E. Grounds, Toronto, Canada.



NO. MU-600
48 gas, locking gas, radiator and pressure caps, application chart, catalog and suggested prices furnished with Merchandiser. Empty compartments allow stock expansion to fit your local requirements.

New STANT MERCHANDISER

Simplifies your selling. Inventory at a glance . . . saves time . . . stock flexibility. Fingertip availability . . . no hunting for caps in hard-to-get-at places. Complete cap business in minimum space. Individually cartoned caps . . . clearly identified . . . easy to find. Hang on wall . . . set on counter . . . fits in anywhere. Eye-catcher . . . brilliant Stant colors . . . handsome selling display.

sell the easy way

This perpetually-working silent salesman has high visibility and helps to remind customers to buy radiator and gas caps. Use two or more units to provide for stock expansion. Write for details . . . naming your jobber.

STANT MANUFACTURING CO., INC.
Connersville, Indiana



Used on America's Finest Automobiles
as Standard Equipment

The Masking Tape you asked for



YOU WANTED A MASKING TAPE that handles easily, sticks well to the job, works right in any weather.



YOU WANTED A MASKING TAPE that's thin and strong, preventing edge build-up and seepage.



YOU WANTED A MASKING TAPE that won't get soggy under wet sanding, peels cleanly off the job without tearing.

REG. U.S. PAT. OFF.
ONLY "SCOTCH" BRAND MASKING TAPE gives you all the features you need to be sure of turning out top-quality work every time. For 29 years painters have been telling us exactly what they want masking tape to do. Today's "SCOTCH" Masking Tape is the answer. Use "SCOTCH" Brand Masking Tape on all your jobs. You'll agree—there's nothing to equal it.



Made in U.S.A. by Minnesota Mining and Mfg. Co., St. Paul 6, Minn.—also makers of "SCOTCH" Brand Pressure-Sensitive Tapes, "SCOTCH" Brand Magnetic Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.



New Products . . .

Continued from Page 192

cleaner features a power unit that can be removed from the top of the tank cover. This unit can then be converted into a portable electric blower, a pack carried vacuum cleaner, a sprayer or an air sweeper. In addition, a tank cover plate is available to fit a 55-gal drum, therefore converting the capacity of the cleaner to 55 gal with the addition of a large size filter bag.

129

Compression Gage

Auto-Test, Inc.: Called "Compress-Aid," this equipment consists of a remote control starter extension switch with solid silver contacts, 5 ft of neoprene covered wire leads, a pressure gauge, and a seamless steel stem. The unit can be operated with one hand and a press of the switch button will crank the engine to bring up the pressure in the cylinder being tested. A feature of the device is a removable switch that may be used independently of the pressure gauge.

130

Door Check Strap

Champ-Items, Inc.: The latest addition to this company's line is an unbreakable door check strap for Chevrolet 1949-52 front; Oldsmobile 1949-51, 76 & 88 Series front; and 1951, 88A Series front, and the Pontiac 1949-52 front.

131

Turn Signal

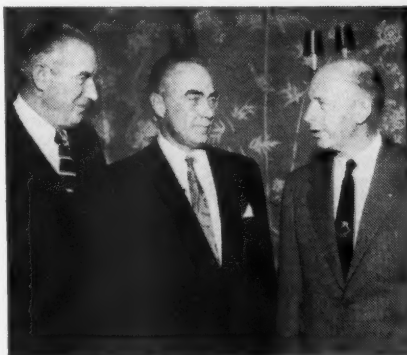
K-D Lamp Co.: A delayed-action self-cancelling, turn signal switch is being marketed by this maker. Its built-in delayed cancelling action permits direction changes in the forward movement of the vehicle before actual turning, it is claimed. A retractable rubber wheel contacts the steering column only during switch operation to prevent wear and squeaks. Installation requires connection of three wires with no cutting or

drilling, and both regular and off-set brackets are furnished.

132

Thermostat Tester

L. B. Miller Co.: The thermostat introduced by this company is said to accommodate all sizes of thermostats. The unit features a new type dial thermometer that is claimed to give accurate readings showing the temperature at which the thermostat should open. An automatic control prevents burning out.



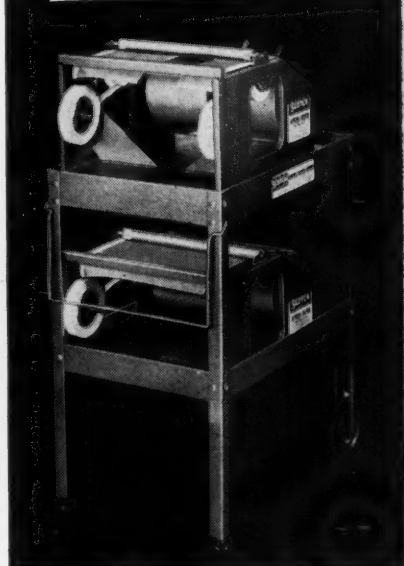
RETIRING PRESIDENT M. B. Jones (left) and Charles C. Freed, president of NADA, are pictured with Raymond E. Mills who was elected president of the Philadelphia Automobile Trade Assn. at its 52nd annual meeting.

NADA Convention "Profit Blue Print"

This year's NADA convention will be staged in Chicago January 29 through February 2, 1955. The convention program has been geared to the theme "Blueprint for Profit" and everything presented will have a direct bearing on the operation of a dealership.

President Eisenhower's chief economic adviser, Dr. Arthur Burns, is scheduled to discuss the Administration's economic program. Another leading economist, Mr. Paul Mazur, will also speak. Other speakers on the program will include: Vince Baker, sales manager of W. K. Hurd Pontiac; General Carlos P. Romulo of the Philippines; C. Hamilton Moses, board chairman of the Arkansas Power and Light Co.; and Mary D. Gillies, decorating and building editor of *McCall's* magazine.

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**APRON
TAPER**
for "Bumper-to-
Bumper" Masking



**Gives fast, neat masking
with the right apron
for any area**

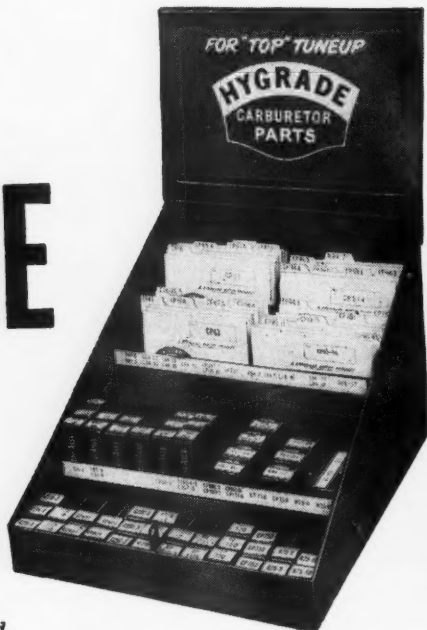
New "Scotch" Brand Multiple Apron Taper (top unit on stand) delivers a choice of two widths of pre-taped aprons. Can be loaded for 6" and 3" aprons (as pictured) or for 9" and 3" aprons. Combined with regular 12" "SCOTCH" APRON TAPER (bottom unit on stand) you've got the proper width aprons for masking any car.

Order "SCOTCH" Brand Apron Tapers now from your 3M jobber.



JUST THE CARBURETOR PARTS YOU NEED FOR TOP TUNE UP

CPA 100 — durable metal cabinet serves as a display, or as a storage cabinet. Cover can be closed and locked.



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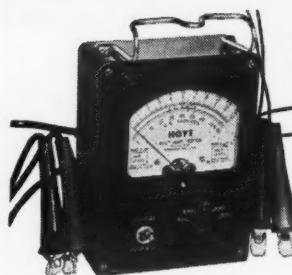
Gasket Packets, Needles and Seats, Pump Piston Plungers — the parts you need for a simple overhaul or a complete rebuilding job — partitioned with index cards and labels so you can find the right part in an instant. Plenty of room for more numbers and/or additional stock. All parts are individually packaged so there's no waste.

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37-18 Northern Blvd.,
Long Island City 1, N. Y.



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COMPLETE VOLTAGE COVERAGE

1/10th Volt to 50 Volts
3 Separate Ranges
0-10-20-50 Volts

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1 amp. to 80 amps. range
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LARGE, EASY-TO-READ
3 1/2" SCALE

SEPARATE
AMMETER-VOLTMETER
LEADS CONNECTED INSIDE
CASE — FAST HOOK-UP



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Trouble Shooting
Easy...*

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BUSES, BOATS

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Selector Switch provides voltage range desired. Switching for practically simultaneous readings between volts and amps. In voltage regulator tests. Normal-Reverse Switch corrects readings without changing leads. Compact 7" x 3 1/2" x 5 1/2" durable Bakelite case. Heavy duty handle. Write for catalog page, complete details and low cost on the #628.

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NEXT MONTH

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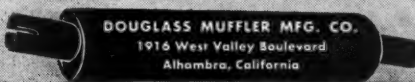


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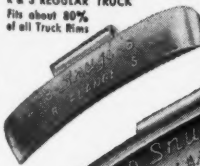
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When you buy Snuql you can be sure of getting the finest Wheel Balancing Weights on the market . . . designed right and made right to give better balance and better fit. Exclusive DOVE TAILED Steel Spring Clip . . . Beveled edges allow easier application and prevent clip from popping into tire. The name Snuql (Registered Trade Mark) on every weight is your guarantee of complete satisfaction.

R & S REGULAR TRUCK
Fits about 80%
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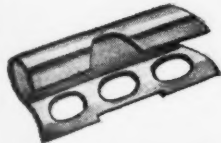
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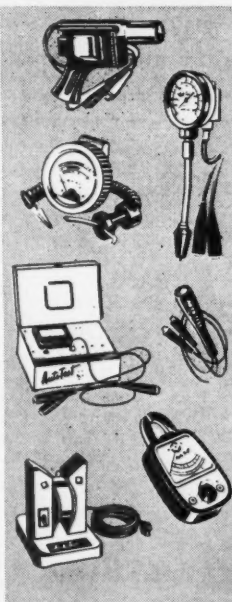
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the modern, economical oil and
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in seconds. Order now from
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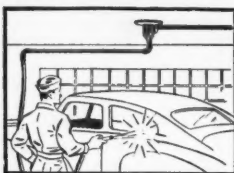
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SEE YOUR DEALER
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Packing—NO LEAKS
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CAUSTICS ENTER-
ING BEARING
- FREE ACTION STAIN-
LESS STEEL BALL
BEARINGS
- Easily Oiled or Greased

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This Amazing New Idico STAR SPRAYER Does The
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High Pressure Hydraulic Piston . . . With
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Territories
Open For
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- IT REALLY
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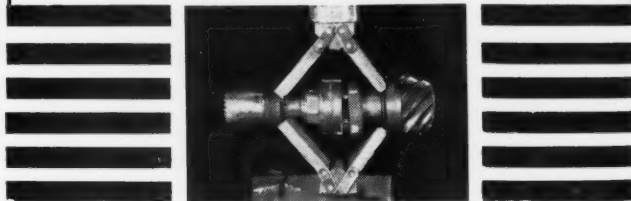
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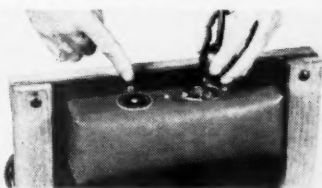
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Detroit 1, Michigan

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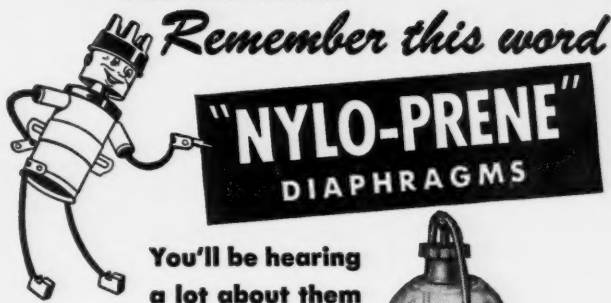


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Brings Warmth while
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Adjust to desired
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Work Comfort means
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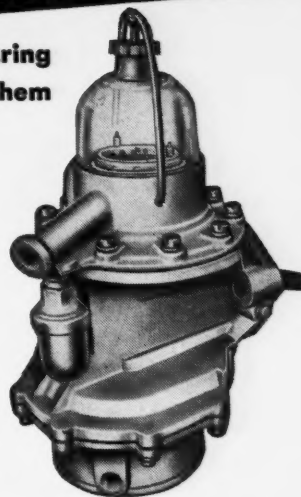
Remember this word
"NYLO-PRENE"
DIAPHRAGMS

You'll be hearing
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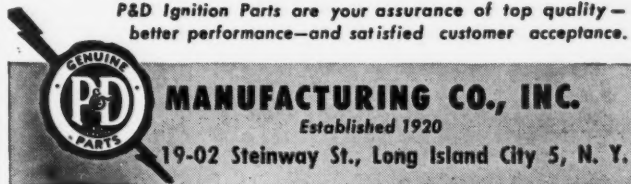
The NYLO-PRENE Diaphragm is exclusive in all P&D Fuel Pumps and assures the driving public of the finest quality and performance ever offered.

P&D Fuel Pumps are manufactured in the most modern and finest equipped plant.

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The **PIONEER** Tool

FOR INSTALLING VALVE SEAT RINGS

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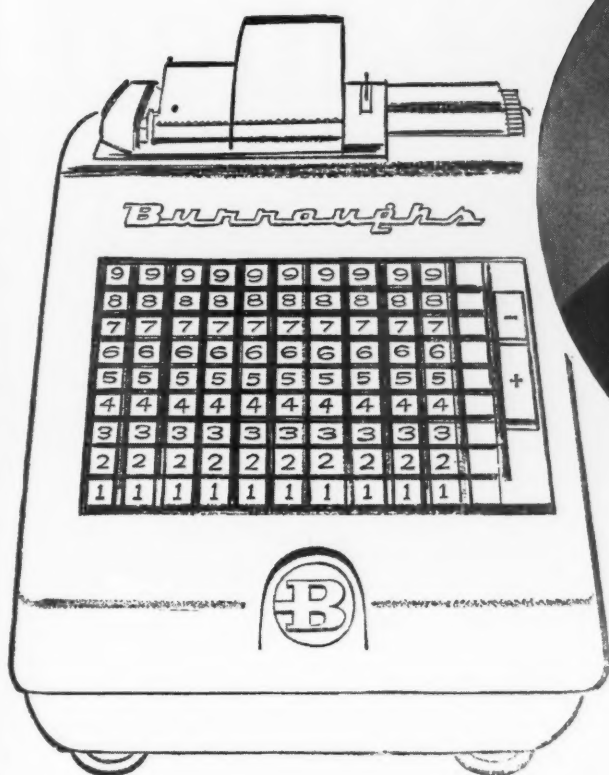
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**J. S. Coleman, President
Burroughs Corporation**

“Business Publications are essential tools of management”

“To keep abreast of rapidly developing techniques in all areas of business operations,” says Mr. Coleman, “is not an easy task. Yet, if management is to discharge the responsibilities laid upon it, it must be informed both of technical developments and, indeed, of events and trends of the nation as a whole.”

“Without business publications,” Mr. Coleman adds, “the job would be impossible. As the size and complexity of the job have grown, management has come to depend increasingly on business publications for information necessary to sound judgment.”

When editorial pages are read with eagerness, advertising pages in those same publications have equally high specialized value. They provide a direct sales route for any product or service of benefit to business or professional men.



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ized know-how and advertising to the men who make decisions in the businesses, industries, sciences and professions...pin-pointing your audience in the market of your choice. Write for list of NBP publications and the latest “Here’s How” booklet, “How We Use the Business Press and Why” by William C. Sproull, Director of Advertising of the Burroughs Corp., Detroit.



The Last Laugh



The third grade teacher carefully explained that a group of sheep is a flock, a group of quail is a bevy, and a group of wolves is a pack. Then she asked for the names of groups of other animals.

When she came to camels, a child timidly suggested, "A carton."

Mother: "You were a very tidy boy not to throw your orange peel on the floor of the bus. Where did you put it?"

Johnny: "In the pocket of the man next to me."

I'm so unhappy I could die."

"Why?"

"Two weeks ago my uncle died and left me \$100,000!"

"Well, then, you should be happy."

"Yeah, but last week another uncle died and left me \$300,000."

"Then why are you unhappy?"

"Well, this week, so far . . . nothing!"
Chace Contactor

Bridegroom: "What's wrong, my dear?"

Bride (in tears): "I made a cake and put it in the freezer an hour ago and there still isn't any frosting on it."

Little Tony was telling his mother about the day in school.

"Mother," he said, "today our teacher asked me whether I had any brothers or sisters and I told her I was the only child."

"And what did she say?" asked his mother.

"She said, 'Thank goodness!'"

Then there was the drunk lying in the gutter with one elbow on the curb, screaming, "If it takes me all week, I'll get over the wall!"

Folks who don't let grass grow under their feet are most likely to be in clover.

The barracks was infected with the Christmas spirit and all were joining in the festivities but one fellow. When asked why, he retorted, "Phooey with Santa Claus! Twenty years ago I asked him for a soldier suit . . . and now I get it!"

Why is it that most girls will scream at the sight of a mouse and then deliberately climb into a convertible with a wolf?

"How's the pain in the leg?" asked one rheumatic of another.

"Okay."

"How's the pain in the arm?"

"Okay."

"How's the pain in the neck?"

"Oh, she's out playing bridge."

The mental cases most difficult to cure are the persons who are crazy about themselves.

AUTO REPAIRS



"Hey, Mac, can we repair a MARSian transmission?"

Definition of a Bank: An institution where you can borrow money if you can present sufficient evidence to show that you don't need it.

If you laugh at your troubles, it's a pretty safe bet that you'll always have something to laugh at.

The best way to cure your bride of nervousness is to tell her it's caused by advancing age.

A conference is a meeting at which people talk about what they should be doing.

A wolf was taking a girl home one night and he says, "May I tell you something? I love to take experienced girls home."

She says, "But I'm not an experienced girl!"

And the wolf says, "And you're not home yet, either!"



"Any trouble getting that car thawed out, Hugo?"

In the new '55 Engines, 60%
have **ALL-STEEL OIL RINGS**
... with the **BIG SWING** to
those types embodying ...

Circumferential Expansion
... now you can get it in the new

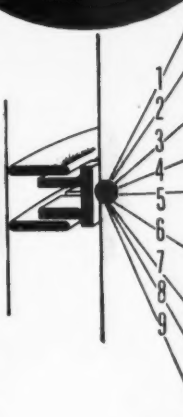
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duomatic C-9

NEW Circumferential
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all-steel oil rings bring you these
9 IMPORTANT ADVANCEMENTS

Duomatic is a new concept in ring design.* It combines the functions of both expander and spacer rings into one unit ... bringing to the dual job an advanced automatic performance that in 9 important ways creates a new era in ring efficiency. Ramco duomatic C-9 all steel oil rings are ready now for re-ringing '55 V-8's. With Ramco circumferential expansion there is a multiplication of contact points on the chrome rails of approximately 9 times that of present day conventional expander rings. Result is a new degree of even, continuous low pressure that makes possible unheard-of oil economy without drying up the cylinder walls.

*Patent applied for

- 
- 1. Circumferential Expansion for maximum performance.
 - 2. Combination spacer and expander for easier installation.
 - 3. Chromium plated steel rails for long life.
 - 4. Constant wear take-up for maintaining efficiency.
 - 5. Control of oil with dishing-spreading action of rails for uniform lubrication.
 - 6. Conformability to cylinder wall with constant response for long life.
 - 7. Complete side-of-groove sealing contact.
 - 8. Correct quick seating without excessive (wall) pressure.
 - 9. Contact equality for even pressure distribution.

The **Circumferential Expansion** principle on which we have spent 15 years of research and 2 million dollars and hold an original patent dated 1940, again confirms Ramco's Engineering

Leadership.

10^{up} for today's re-ring jobs ★ **RTC** for fleet re-ring jobs ★ **C** for tomorrow's re-ring jobs

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When the functional parts of any vehicle need replacement, they *should* be better than the original parts. Remember, they're not being put into a new vehicle, but in one whose requirements have been changed by months and miles of driving.

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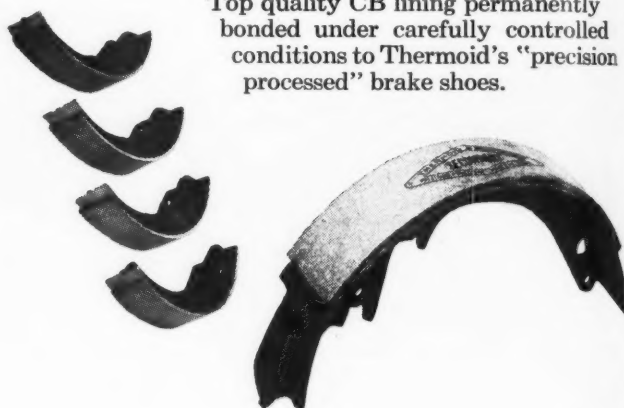
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